(FILE 'HCAPLUS' ENTERED AT 10:07:10 ON 10 JUL 2003)
L1 1537 SEA FILE=HCAPLUS ABB=ON PLU=ON (MORAXEL? OR M OR BRANHAMELL? OR B)(W)CATARRH?
L2 67 SEA FILE=HCAPLUS ABB=ON PLU=ON L1(5A)ANTIGEN
L3 38 SEA FILE=HCAPLUS ABB=ON PLU=ON L2(S)VACCIN?
L4 38 SEA FILE=HCAPLUS ABB=ON PLU=ON L3 AND (POLYPEPTIDE OR PEPTIDE OR POLYPROTEIN OR PROTEIN)
L5 28 SEA FILE=HCAPLUS ABB=ON PLU=ON L4 AND (ANTIBOD? OR T(W)(CELL OR LYMPHOCYT?))

L5 ANSWER 1 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:417721 HCAPLUS
DOCUMENT NUMBER: 139:5625
TITLE: **Protein** and DNA sequence of Moraxella catarrhalis antigens SHB-MC100 and SHB-MC101 for prophylaxis, diagnosis and therapy of Moraxella infection
INVENTOR(S): Martin, Denis; Hamel, Josee; Brodeur, Bernard R.; Rioux, Stephane; Couture, Julie
PATENT ASSIGNEE(S): Shire Biochem Inc., Can.
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003043986	A1	20030530	WO 2002-CA1760	20021115

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-331441P P 20011116
AB The present invention relates to **protein** and DNA sequence of Moraxella or Branhamella catarrhalis antigens useful for prophylaxis, diagnosis and/or therapy of Moraxella infection. The antigen are SHB-MC100 and SHB-MC101 **proteins** from M. catarrhalis strains ETSU C-2. The invention also relates to kits and immunodiagnosis of Moraxella infection. The invention further relates to the use of **polypeptide**, polynucleotide and **antibody** in a method for therapeutic or prophylactic treatment of otitis media, sinusitis, persistent cough, acute laryngitis.

L5 ANSWER 2 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2003:191350 HCAPLUS
DOCUMENT NUMBER: 138:236518
TITLE: Human immune response to outer membrane **protein** CD of Moraxella catarrhalis in

adults with chronic obstructive pulmonary disease

AUTHOR(S): Murphy, Timothy F.; Kirkham, Charmaine; Liu, Dai-Fang; Sethi, Sanjay

CORPORATE SOURCE: Divisions of Infectious Diseases, Department of Medicine, University at Buffalo, The State University of New York, Buffalo, NY, USA

SOURCE: Infection and Immunity (2003), 71(3), 1288-1294
CODEN: INFIBR; ISSN: 0019-9567

PUBLISHER: American Society for Microbiology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Moraxella catarrhalis is a common cause of lower respiratory tract infection in adults with chronic obstructive pulmonary disease (COPD). The **antibody** response to outer membrane **protein** (OMP) CD, a highly conserved surface **protein** of **M. catarrhalis** under consideration as a **vaccine antigen**, was studied in adults with COPD following 40 episodes of infection or colonization. Following infection or colonization, 9 of 40 patients developed new serum IgG to OMP CD, as measured by ELISA. Adsorption assays revealed that a proportion of the serum IgG was directed toward surface-exposed epitopes on OMP CD in six of the nine patients who developed new IgG to OMP CD. Immunoblot assays with fusion **peptide** constructs indicated that the new **antibodies** that developed after infection or colonization recognized conformational epitopes, particularly in the carboxy region of the **protein** . Three of 28 patients developed new mucosal IgA to OMP CD in sputum supernatants. This study establishes that OMP CD is a target of a systemic and mucosal immune response following infection and colonization in some patients with COPD.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 28 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:977848 HCAPLUS

DOCUMENT NUMBER: 138:54538

TITLE: Moraxella (**Branhamella**) **catarrhalis antigens** and their use in **vaccines** and diagnosis

INVENTOR(S): Martin, Denis; Hamel, Josee; Brodeur, Bernard R.; Rioux, Stephane; Leblanc, Genevieve; Couture, Julie

PATENT ASSIGNEE(S): Shire Biochem Inc., Can.

SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002102836	A2	20021227	WO 2002-CA911	20020618
WO 2002102836	A3	20030522		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,

GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-298403P P 20010618
US 2001-330095P P 20011019

AB The present invention relates to Moraxella catarrhalis **polypeptides** of which may be useful for prophylaxis, diagnostic and/or therapy purposes. More specifically, the invention concerns vaccines comprising Moraxella catarrhalis BVH-MC6 and/or BVH-MC7 **proteins**, which induce **antibodies** and protective immunity. The invention also concerns diagnostic kits for detecting Moraxella-specific **antibodies** or Moraxella **proteins** in a biol. sample.

L5 ANSWER 4 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:888763 HCAPLUS
DOCUMENT NUMBER: 137:383786
TITLE: Moraxella catarrhalis antigens and genes for prophylaxis, diagnosis and therapy of Moraxella infection
INVENTOR(S): Martin, Denis; Hamel, Josee; Brodeur, Bernard R.; Rioux, Stephane; Couture, Julie
PATENT ASSIGNEE(S): Shire Biochem Inc., Can.
SOURCE: PCT Int. Appl., 94 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002092625	A2	20021121	WO 2002-CA706	20020515

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2001-290653P P 20010515

AB The present invention relates to M. or Branhamella catarrhalis polynucleotides and **polypeptides** of which may be useful for prophylaxis, diagnosis and/or therapy of Moraxella infection. The **polypeptides** are BVH-MC2 **proteins** of M. catarrhalis strains ETSU C-2, ETSU 658, ETSU T-25, and ETSU M-12; BVH-MC3 **protein**, BVH-MC4 **protein**, and BVH-MC5 **protein** of M. catarrhalis strains ETSU C-2. The

polynucleotides are BVH-MC2 genes, BVH-MC3 gene, BVH-MC4 gene and BVH-MC5 gene of various strains of M. catarrhalis.

L5 ANSWER 5 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:868951 HCAPLUS
DOCUMENT NUMBER: 137:368562
TITLE: Moraxella catarrhalis antigens for therapy and diagnosis of infection and screening of antimicrobial agent
INVENTOR(S): Peek, Keith; Wilkinson, Mark; Thomson, Suzanne
PATENT ASSIGNEE(S): Provalis UK Limited, UK
SOURCE: PCT Int. Appl., 98 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002090383	A2	20021114	WO 2002-GB2205	20020510

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.:
GB 2001-11492 A 20010510
GB 2001-12448 A 20010522
GB 2001-19479 A 20010809

AB Novel **proteins** derived from Moraxella catarrhalis are described. These **proteins** can be used as antigens and or immunogens in medicine, in particular in the prepns. of vaccines. They can also be used in diagnosis, and for screening as potential antimicrobial targets.

L5 ANSWER 6 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2002:332211 HCAPLUS
DOCUMENT NUMBER: 136:364951
TITLE: Nucleic acids and proteins from group B Streptococcus agalactiae and group A Streptococcus pyogenes
INVENTOR(S): Telford, John; Masignani, Vega; Margarit y Ros, Immaculada; Grandi, Guido; Fraser, Claire; Tettelin, Herve
PATENT ASSIGNEE(S): Chiron S.P.A., Italy; The Institute for Genomic Research
SOURCE: PCT Int. Appl., 4525 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002034771	A2	20020502	WO 2001-GB4789	20011029
WO 2002034771	A3	20030116		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2002034771	A2	20020502	WO 2001-XA4789	20011029

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

WO 2002034771	A2	20020502	WO 2001-XB4789	20011029

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

AU 2002014127	A5	20020506	AU 2002-14127	20011029

PRIORITY APPLN. INFO.:

GB 2000-26333	A	20001027
GB 2000-28727	A	20001124
GB 2001-5640	A	20010307
WO 2001-GB4789	W	20011029

AB The invention provides proteins from group B streptococcus (Streptococcus agalactiae) and group A streptococcus (Streptococcus pyogenes), including amino acid sequences and the corresponding nucleotide sequences. The nucleotide sequence of the full genome of S. agalactiae strain 2603 V/R is provided as are 5483 protein-coding genes and the amino acid sequences of their protein products. Data are given to show that the proteins are useful antigens for vaccines, immunogenic compns., and/or diagnostics. The proteins are also targets for antibiotics to treat or prevent bacterial infection, and in particular, streptococcal infection. [This abstr. record is one of three records for this document necessitated by the large no. of index entries required to fully index the document and publication constraints.].

L5 ANSWER 7 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:255245 HCAPLUS
DOCUMENT NUMBER: 134:265146
TITLE: Cloning and characterization of outer membrane **protein** OMP106 gene of Moraxella catarrhalis and its prophylactic, diagnostic and therapeutic uses
INVENTOR(S): Tucker, Kenneth; Plosila, Laura; Tillman, Ulrich F.
PATENT ASSIGNEE(S): Antex Biologics Inc., USA
SOURCE: U.S., 49 pp., Cont.-in-part of U.S. Ser. No. 642,712.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6214981	B1	20010410	US 1997-968685	19971112
CN 1223549	A	19990721	CN 1997-195990	19970428
ZA 9703809	A	19971201	ZA 1997-3809	19970502
KR 2000010734	A	20000225	KR 1998-708845	19981103
US 2002177200	A1	20021128	US 2001-813214	20010320

PRIORITY APPLN. INFO.: US 1996-642712 A2 19960503
US 1997-968685 A3 19971112

AB The invention discloses the Moraxella catarrhalis outer membrane **protein**-106 (OMP106) **polypeptide**, **polypeptides** derived therefrom (OMP106-derived **polypeptides**), nucleotide sequences encoding these **polypeptides**, and **antibodies** that specifically bind the OMP106 **polypeptide** and/or OMP106-derived **polypeptides**. Also disclosed are immunogenic, prophylactic or therapeutic compns., including vaccines, comprising OMP106 **polypeptide** and/or OMP106-derived **polypeptides**. The invention addnl. discloses methods of inducing immune responses to M. catarrhalis and M. catarrhalis OMP106 **polypeptides** and OMP106-derived **polypeptides** in animals.

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:168028 HCAPLUS
DOCUMENT NUMBER: 134:221433
TITLE: Vaccine antigens of Moraxella
INVENTOR(S): Farn, Jacinta; Strugnell, Richard; Tennent, Jan
PATENT ASSIGNEE(S): Commonwealth Scientific and Industrial Research Organisation, Australia; The University of Melbourne
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001016172	A1	20010308	WO 2000-AU1048	20000831
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1210364	A1	20020605	EP 2000-955974	20000831
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
BR 2000013574	A	20020611	BR 2000-13574	20000831

PRIORITY APPLN. INFO.: AU 1999-2571 A 19990831
WO 2000-AU1048 W 20000831

AB The present invention relates to antigens of Moraxella, in particular, Moraxella bovis, nucleic acid sequences encoding these antigens and formulations for use in raising an immune response against Moraxella.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 9 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:101183 HCAPLUS
DOCUMENT NUMBER: 134:161878
TITLE: Moraxella catarrhalis BASB114 antigens and uses thereof
INVENTOR(S): Thonnard, Joelle
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001009179	A1	20010208	WO 2000-EP7293	20000727
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1204678	A1	20020515	EP 2000-956338	20000727
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, IE, SI, LT, LV, FI, RO, MK, CY, AL				

JP 2003506027 T2 20030218 JP 2001-513985 20000727
PRIORITY APPLN. INFO.: GB 1999-17977 A 19990730
WO 2000-EP7293 W 20000727

AB The invention provides BASB114 **polypeptides** and polynucleotides encoding BASB114 **polypeptides** and methods for producing such **polypeptides** by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:78537 HCAPLUS
DOCUMENT NUMBER: 134:144470
TITLE: A high molecular weight major outer membrane **protein** of Moraxella and the gene encoding it and the diagnosis, prophylaxis and treatment of infection
INVENTOR(S): Loosmore, Sheena M.; Sasaki, Ken; Yang, Yan-Ping; Klein, Michel H.
PATENT ASSIGNEE(S): Connaught Laboratories Limited, Can.
SOURCE: PCT Int. Appl., 247 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001007619	A1	20010201	WO 2000-CA870	20000726
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1203082	A1	20020508	EP 2000-951136	20000726
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				

PRIORITY APPLN. INFO.: US 1999-361619 A2 19990727
WO 2000-CA870 W 20000726

AB An isolated and purified outer membrane **protein** of a Moraxella strain, particularly M. catarrhalis, having a mol. mass of about 200 kDa, is provided by recombinant means. The about 200 kDa outer membrane **protein** as well as nucleic acid mols. encoding the same are useful in diagnostic applications and immunogenic compns., particularly for in vivo administration to a host to confer protection against disease caused by a bacterial pathogen that produces the about 200 kDa outer membrane **protein** or produces a **protein** capable of inducing **antibodies** in a host specifically reactive with the about 200 kDa outer membrane **protein**. N-terminally and C-terminally truncated about 200 kDa **proteins** also are

produced recombinantly. The gene was cloned from the 4223 strain by screening an expression library in .lambda.EMBL3 with antiserum to the **protein**. A series of overlapping fragments were obtained and assembled to give the full-length gene. The gene was then used as a probe to obtain the gene from a no. of different strains of the bacterium. **Protein** manufd. in Escherichia coli was obtained as inclusion bodies that could be resolubilized and used raise antiserum in mice and guinea pigs. The antiserum was bactericidal and could block the binding of the bacterium to animal cells. Comparison of the sequences of the G tract of genes from strains with different clumping activity indicated that the no. of G's in the tract affected levels of gene expression. Prepn. and characterization of N- and C-terminal truncation derivs. is described.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:23521 HCAPLUS
DOCUMENT NUMBER: 135:194002
TITLE: Vaccines for Moraxella catarrhalis
AUTHOR(S): McMichael, J. C.
CORPORATE SOURCE: Wyeth-Lederle Vaccines, West Henrietta, NY, 14586-9728, USA
SOURCE: Vaccine (2000), 19(Suppl. 1), S101-S107
CODEN: VACCDE; ISSN: 0264-410X
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English

AB A review with 53 refs. **Vaccine** development for **M . catarrhalis** is in the **antigen** identification stage. M. catarrhalis does not appear to synthesize secreted antigens such as exotoxins, nor does it appear to possess a carbohydrate capsule. Modified forms of these antigens are usually good vaccine components. There is some interest in whole bacterial cells and membrane fractions, but the search has largely focused on purified outer surface antigens. All of the present antigens have been selected based on the response seen in animals, although the **antibody** response seen in people exposed to the bacterium provides some guidance. The **antibody** response provides information related to the cross-strain preservation of epitopes and whether they are surface exposed. Antigens that elicit **antibodies** that have complement dependent bactericidal capacity, opsonophagocytic activity or interfere with one of the antigen's known functions such as adhesion or nutrient acquisition are particularly valued. In addn. to examg. the **antibody** response, some antigens have been evaluated in a murine pulmonary clearance model. Using these assays and model, several vaccine candidates have been identified. The antigens may be roughly classified by the function they serve the bacterium. One set appears to promote adhesion to host tissues and includes the hemagglutinins, ubiquitous surface **protein** A1 (UspA1), and possibly the CD **protein**. A second set is involved in nutrient acquisition. This set includes the lactoferrin binding **protein** A (LbpA) and lactoferrin binding **protein** B (LbpB), the transferrin binding **protein** A (TbpA) and transferrin binding **protein** B (TbpB), the CD and E porins,

and the catarrhalis outer membrane **protein** B (CopB). A third set is comprised of antigens involved in virulence and it includes lipooligosaccharide (LOS) and the ubiquitous surface **protein** A2 (UspA2). Antigens of unknown function, such as the 200 K **protein**, may also be vaccine candidates.

REFERENCE COUNT: 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 12 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:628168 HCAPLUS
DOCUMENT NUMBER: 133:221588
TITLE: Immunogenic compounds
INVENTOR(S): Ruelle, Jean-louis
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 97 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000052042	A1	20000908	WO 2000-EP1468	20000223
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1163265	A1	20011219	EP 2000-907603	20000223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				

PRIORITY APPLN. INFO.: GB 1999-4559 A 19990226
WO 2000-EP1468 W 20000223

AB The invention provides BASB081 **polypeptides** from Moraxella catarrhalis and polynucleotides encoding BASB081 **polypeptides** and methods for producing such **polypeptides** by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 13 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:227773 HCAPLUS
DOCUMENT NUMBER: 132:250005
TITLE: Antigenic outer membrane **protein** OMP21 of Moraxella catarrhalis and the gene encoding it and their prophylactic, diagnostic and therapeutic uses
INVENTOR(S): Tucker, Kenneth; Tillmann, Ulrich F.
PATENT ASSIGNEE(S): Antex Biologics Inc., USA
SOURCE: PCT Int. Appl., 109 pp.

CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000018910	A1	20000406	WO 1999-US22918	19991001
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6541616	B1	20030401	US 1998-164714	19981001
CA 2344622	AA	20000406	CA 1999-2344622	19991001
AU 9964100	A1	20000417	AU 1999-64100	19991001
EP 1117779	A1	20010725	EP 1999-951716	19991001
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002525110	T2	20020813	JP 2000-572357	19991001

PRIORITY APPLN. INFO.: US 1998-164714 A 19981001
WO 1999-US22918 W 19991001

AB The invention discloses the Moraxella catarrhalis outer membrane **protein polypeptide** and **polypeptides** derived therefrom (collectively "OMP21"), nucleotide sequences encoding said OMP21, and **antibodies** that specifically bind OMP21. Also disclosed are pharmaceutical compns. including prophylactic or therapeutic compns., which may be immunogenic compns. including vaccines, comprising OMP21, **antibodies** thereto or nucleotides encoding same. The invention addnl. discloses methods of inducing an immune response to M. catarrhalis and OMP21 in an animal, preferably a human, methods of treating and methods of diagnosing Moraxella infections in an animal, preferably a human, and kits therefor. The outer membrane **proteins** of several strains of M. catarrhalis were extd. with non-denaturing detergents (octyl glucoside or EmpigenBB.RTM.) and fractionated on SDS-polyacrylamide gels followed by transfer to PVDF membranes for N-terminal sequencing. The **protein** was antigenic in rabbits and conserved between strains of M. catarrhalis and related bacteria. Antisera to the **protein** mediated complement killing of M. catarrhalis. The gene, omp21, was cloned by PCR with degenerate primers and a knockout mutation created. The knockout strain showed weaker binding to cultured nasopharyngeal cells than did the wild type.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 14 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:191223 HCAPLUS
DOCUMENT NUMBER: 132:233331
TITLE: Moraxella catarrhalis basb034 **polypeptides** and utility in vaccine

development and diagnosis
INVENTOR(S): Ruelle, Jean-louis
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 106 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000015802	A1	20000323	WO 1999-EP6781	19990914
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2342398	AA	20000323	CA 1999-2342398	19990914
AU 9958632	A1	20000403	AU 1999-58632	19990914
AU 752667	B2	20020926		
BR 9914492	A	20010626	BR 1999-14492	19990914
EP 1114160	A1	20010711	EP 1999-946171	19990914
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002525057	T2	20020813	JP 2000-570329	19990914
NZ 510512	A	20021025	NZ 1999-510512	19990914
NO 2001001263	A	20010430	NO 2001-1263	20010313

PRIORITY APPLN. INFO.: GB 1998-20002 A 19980914
WO 1999-EP6781 W 19990914

AB The invention provides BASB034 **polypeptides** and polynucleotides encoding BASB034 **polypeptides** and methods for producing such **polypeptides** by recombinant techniques. It is not uncommon to isolate Moraxella catarrhalis strains that are resistant to some or all of the std. antibiotics. The gene BASB034 was isolate from Moraxella catarrhalis strain ATCC43617 and other strains. The non-coding flanking regions of the BASB034 gene were analyzed and exploited for modulation of BASB034 gene expression. Rflp patterns within this gene were found with the following restriction endonucleases: HphI, AluI, RsaI, EcoRV, and Sau3A1. A **vaccine** is described comprising the gene BASB034 **protein** and at least one other **Moraxella catarrhalis antigen**. This may be used to generate an immune response. **Antibodies** specific for this antigen are discussed in the light of Moraxella catarrhalis infection detection and treatment and diagnosis. Also provided are diagnostic, prophylactic and therapeutic uses.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 15 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2000:133833 HCAPLUS
DOCUMENT NUMBER: 132:176650

TITLE: Cloning of BASB023 antigen from Moraxella catarrhalis
INVENTOR(S): Thonnard, Joelle
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 99 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000009694	A1	20000224	WO 1999-EP5828	19990811
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2340392	AA	20000224	CA 1999-2340392	19990811
AU 9954227	A1	20000306	AU 1999-54227	19990811
EP 1105492	A1	20010613	EP 1999-940192	19990811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: GB 1998-17824 A 19980814
WO 1999-EP5828 W 19990811

AB The invention provides BASB023 **polypeptides** and polynucleotides encoding BASB023 **polypeptides** from Moraxella catarrhalis (also named Branhamella catarrhalis) and methods for producing such **polypeptides** by recombinant techniques. BASB023 antigen is related by amino acid sequence homol. to Legionella adelaidensis macrophage infectivity potentiator **polypeptide**. Since Moraxella catarrhalis is responsible for several pathologies, the main ones being otitis media in infants and children and pneumonia in elderlies, the invention provides diagnostic, prophylactic and therapeutic uses for Moraxella infection.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 16 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:736756 HCAPLUS
DOCUMENT NUMBER: 131:350252
TITLE: Moraxella catarrhalis antigenic **proteins** and their use for immunization
INVENTOR(S): Cripps, Allan William; Kyd, Jennelle
PATENT ASSIGNEE(S): Cortecs (UK) Limited, UK
SOURCE: PCT Int. Appl., 32 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9958563	A2	19991118	WO 1999-GB1473	19990511
WO 9958563	A3	19991229		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2328130	AA	19991118	CA 1999-2328130	19990511
AU 9938383	A1	19991129	AU 1999-38383	19990511
EP 1077999	A2	20010228	EP 1999-921008	19990511
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2002514657	T2	20020521	JP 2000-548365	19990511
NO 2000005670	A	20010110	NO 2000-5670	20001110

PRIORITY APPLN. INFO.: GB 1998-10084 A 19980511
WO 1999-GB1473 W 19990511

AB Novel **antigens** of **Branhamella catarrhalis** (also known as Moraxella catarrhalis) are provided, together with their use in **vaccines** as well as methods of diagnosis and/or detection. N-terminal and internal **peptide** sequences are provided for antigenic **proteins** of mol. mass 20, 30, 35, 44, and 71 kDa.

L5 ANSWER 17 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:723176 HCAPLUS
DOCUMENT NUMBER: 131:347525
TITLE: Moraxella catarrhalis Basb019 **proteins** and genes from Moraxella catarrhalis and antigens and **antibodies** and therapeutic applications
INVENTOR(S): Ruelle, Jean-Louis
PATENT ASSIGNEE(S): SmithKline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 101 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9957277	A2	19991111	WO 1999-EP3038	19990503
WO 9957277	A3	20000203		
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,				

CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2327316	AA	19991111	CA 1999-2327316	19990503
AU 9939315	A1	19991123	AU 1999-39315	19990503
EP 1075521	A2	20010214	EP 1999-922171	19990503

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRIORITY APPLN. INFO.: GB 1998-9683 A 19980506
WO 1999-EP3038 W 19990503

AB The invention provides Moraxella catarrhalis strain ATCC43617 gene BASB019 **polypeptides** and polynucleotides encoding BASB019 **polypeptides** and methods for producing such **polypeptides** by recombinant techniques. Variability within the BASB019 gene among several Moraxella catarrhalis strains was shown by RFLP anal. Also provided are diagnostic, prophylactic and therapeutic uses including prodn. of antisera to recombinant BASB019 and vaccine prodn. and immunizations. A treatment of humans for Moraxella catarrhalis disease using **antibody** directed against Basb019 **proteins** is described. Lastly, screening assays for antagonists and agonists for BASB019 are described.

L5 ANSWER 18 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:708913 HCAPLUS
DOCUMENT NUMBER: 131:333042
TITLE: **Protein** and DNA sequences of Moraxella catarrhalis BASB011 gene, and uses thereof in vaccine compositions and in assays for the diagnosis of bacterial infections
INVENTOR(S): Ruelle, Jean-louis
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9955871	A1	19991104	WO 1999-EP2764	19990420

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

CA 2326820	AA	19991104	CA 1999-2326820	19990420
AU 9940331	A1	19991116	AU 1999-40331	19990420
EP 1071784	A1	20010131	EP 1999-923457	19990420

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI

PRIORITY APPLN. INFO.: GB 1998-8720 A 19980423
WO 1999-EP2764 W 19990420

AB This invention provides the sequence of the Moraxella catarrhalis BASB011 gene, which encodes a **protein** that has homol. to the HtrA serine protease of Helicobacter pylori. The invention also

relates to the use of an immunogenic fragment, preferably the extracellular domain, of the provided **protein** in a vaccine. The invention further relates to the use of the provided **protein** and/or gene in the diagnosis of bacterial infections, esp. those of Moraxella.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 19 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:554570 HCAPLUS
DOCUMENT NUMBER: 131:285063
TITLE: Analysis of antigenic structure and human immune response to outer membrane **protein** CD of Moraxella catarrhalis
AUTHOR(S): Murphy, Timothy F.; Kirkham, Charmaine; DeNardin, Ernesto; Sethi, Sanjay
CORPORATE SOURCE: Divisions of Infectious Diseases, Department of Microbiology, State University of New York at Buffalo, Buffalo, NY, 14215, USA
SOURCE: Infection and Immunity (1999), 67(9), 4578-4585 CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Moraxella catarrhalis is an important cause of otitis media in children and lower respiratory tract infections in adults with chronic obstructive pulmonary disease (COPD). Outer membrane **protein** CD (OMP CD) is a 45-kDa **protein** which is a potential **vaccine antigen** to prevent infections caused by **M. catarrhalis**. Eight monoclonal **antibodies** were used to study the antigenic structure of the OMP CD mol. by assaying recombinant **peptides** corresponding to the sequence of the **protein**. This approach identified two surface-exposed epitopes, including one near the amino terminus (amino acids 25 to 44) and one in the central region of the mol. (amino acids 261 to 331). Assays with serum and sputum supernatants of adults with COPD revealed variable levels of **antibodies** to OMP CD among individuals. To det. which portions of the OMP CD mol. were recognized by human **antibodies**, three human serum samples were studied with six recombinant **peptides** which span the sequence of OMP CD. All three sera contained IgG **antibodies** which recognized exclusively the **peptide** corresponding to amino acids 203 to 260 by immunoblot assay. Adsorption expts. with whole bacteria established that some of the human **antibodies** are directed at surface-exposed epitopes on OMP CD. The authors conclude that OMP CD is a highly conserved mol. which contains at least two sep. epitopes which are exposed on the bacterial surface. While individual adults with COPD show variability in the immune response to OMP CD, a specific region of the OMP CD mol. (amino acids 203 to 260) is important as a target of the human immune response.

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 20 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1999:83288 HCAPLUS

DOCUMENT NUMBER: 130:280494
TITLE: Use of an isogenic mutant constructed in Moraxella catarrhalis to identify a protective epitope of outer membrane **protein** B1 defined by monoclonal **antibody** 11C6
AUTHOR(S): Luke, Nicole R.; Russo, Thomas A.; Luther, Neal; Campagnari, Anthony A.
CORPORATE SOURCE: Department of Microbiology, Center for Microbial Pathogenesis, State University of New York at Buffalo, Buffalo, NY, 14214, USA
SOURCE: Infection and Immunity (1999), 67(2), 681-687
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Moraxella catarrhalis-induced otitis media continues to be a significant cause of infection in young children, prompting increased efforts at identifying effective vaccine antigens. The authors have previously demonstrated that M. catarrhalis expresses specific outer membrane **proteins** (OMPs) in response to iron limitation and that this organism can utilize transferrin and lactoferrin for in vitro growth. One of these **proteins**, which binds human transferrin, is OMP B1. As the human host presents a naturally iron-limited environment, **proteins**, like OMP B1, which are expressed in response to this nutritional stress are potential vaccine antigens. In this study, the authors have developed monoclonal **antibody** (MAb) 11C6, which reacts to a surface-exposed epitope of OMP B1 expressed by M. catarrhalis 7169. This **antibody** was used to clone ompB1, and sequence anal. suggested that OMP B1 is the M. catarrhalis homolog to the transferrin binding **protein** B described for pathogenic Neisseriaceae, Haemophilus influenzae, Actinobacillus pleuropneumoniae, and M. catarrhalis. Expression of recombinant OMP B1 on the surface of Escherichia coli confers transferrin binding activity, confirming that this **protein** is likely involved in iron acquisition. In addn., ompB1 was used to construct an isogenic mutant in M. catarrhalis 7169. This mutant, termed 7169b12, was used as the control in bactericidal assays designed to det. if OMP B1 elicits protective **antibodies**. In the presence of MAb 11C6 and human complement, wild-type 7169 demonstrated a 99% decline in viability, whereas the ompB1 isogenic mutant was resistant to this bactericidal activity. Further anal. with MAb 11C6 revealed the presence of this OMP B1 epitope on 31% of the clin. isolates tested. These data suggest that OMP B1 is a potential **vaccine antigen** against **M. catarrhalis** infections.

REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 21 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:574816 HCAPLUS
DOCUMENT NUMBER: 129:313152
TITLE: The transferrin binding **protein** B of Moraxella catarrhalis elicits bactericidal **antibodies** and is a potential vaccine antigen
AUTHOR(S): Myers, Lisa E.; Yang, Yan-Ping; Du, Run-Pan;

Wang, Qijun; Harkness, Robin E.; Schryvers, Anthony B.; Klein, Michel H.; Loosmore, Sheena M.
CORPORATE SOURCE: Pasteur Merieux Connaught Canada Research, North York, ON, M2R 3T4, Can.
SOURCE: Infection and Immunity (1998), 66(9), 4183-4192
CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER: American Society for Microbiology
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The transferrin binding **protein** genes (tbpA and tbpB) from two strains of Moraxella catarrhalis have been cloned and sequenced. The genomic organization of the M. catarrhalis transferrin binding **protein** genes is unique among known bacteria in that tbpA precedes tbpB and there is a third gene located between them. The deduced sequences of the M. catarrhalis TbpA **proteins** from two strains were 98% identical, while those of the TbpB **proteins** from the same strains were 63% identical and 70% similar. The third gene, tentatively called orf3, encodes a **protein** of approx. 58 kDa that is 98% identical between the two strains. The tbpB genes from four addnl. strains of M. catarrhalis were cloned and sequenced, and two potential families of TbpB **proteins** were identified based on sequence similarities. Recombinant TbpA (rTbpA), rTbpB, and rORF3 **proteins** were expressed in Escherichia coli and purified. RTbpB was shown to retain its ability to bind human transferrin after transfer to a membrane, but neither rTbpA nor rORF3 did. Monospecific anti-rTbpA and anti-rTbpB **antibodies** were generated and used for immunoblot anal., which demonstrated that epitopes of M. catarrhalis TbpA and TbpB were antigenically conserved and that there was constitutive expression of the tbp genes. In the absence of an appropriate animal model, anti-rTbpA and anti-rTbpB **antibodies** were tested for their bactericidal activities. The anti-rTbpA antiserum was not bactericidal, but anti-rTbpB antisera were found to kill heterologous strains within the same family. Thus, if bactericidal ability is clin. relevant, a **vaccine** comprising multiple rTbpB **antigens** may protect against **M. catarrhalis** disease.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 22 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1998:479556 HCAPLUS
DOCUMENT NUMBER: 129:108012
TITLE: UspA1 and UspA2 antigens of Moraxella catarrhalis
INVENTOR(S): Hansen, Eric J.; Aebi, Christoph; Cope, Leslie D.; Maciver, Isobel; Fiske, Michael J.; Fredenburg, Ross
PATENT ASSIGNEE(S): The Board of Regents, the University of Texas System, USA
SOURCE: PCT Int. Appl., 237 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9828333	A2	19980702	WO 1997-US23930	19971219
WO 9828333	A3	19990107		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, GM, GW, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9857201	A1	19980717	AU 1998-57201	19971219
AU 746442	B2	20020502		
EP 948625	A2	19991013	EP 1997-953461	19971219
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CN 1251611	A	20000426	CN 1997-180843	19971219
JP 2001515467	T2	20010918	JP 1998-529075	19971219
KR 2000057575	A	20000925	KR 1999-705332	19990615
US 6310190	B1	20011030	US 1999-336447	19990621
US 2003032772	A1	20030213	US 2001-952267	20010912

PRIORITY APPLN. INFO.:	US 1996-33598P	P	19961220
	WO 1997-US23930	W	19971219
	US 1999-336447	A3	19990621

AB The present invention discloses the existence of two novel **proteins** UspA1 and UspA2, and their resp. genes uspA1 and uspA2. Each **protein** encompasses a region that is conserved between the two **proteins** and comprises an epitope that is recognized by MAb 17C7. One or more than one of these species may aggregate to form the very high mol. wt. form (i.e. greater than 200 kDa) of the UspA antigen. Compns. and both diagnostic and therapeutic methods for the treatment and study of M. catarrhalis are disclosed.

L5 ANSWER 23 OF 28 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1998:124040 HCAPLUS
DOCUMENT NUMBER:	128:191575
TITLE:	Outer membrane **protein** B1 of Moraxella catarrhalis
INVENTOR(S):	Campagnari, Anthony A.
PATENT ASSIGNEE(S):	Research Foundation of State University of New York, USA
SOURCE:	PCT Int. Appl., 43 pp. CODEN: PIXXD2
DOCUMENT TYPE:	Patent
LANGUAGE:	English
FAMILY ACC. NUM. COUNT:	1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9806432	A1	19980219	WO 1997-US14596	19970815
W: AU, CA, JP, MX				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,				

PT, SE

US 6004562	A	19991221	US 1996-698652	19960816
AU 9740757	A1	19980306	AU 1997-40757	19970815
PRIORITY APPLN. INFO.:			US 1996-698652	19960816
			WO 1997-US14596	19970815

AB An isolated and purified outer membrane **protein** B1, and **peptides** formed therefrom, of Moraxella catarrhalis, are described. A method for the isolation and purifn. of outer membrane **protein** B1 from a bacterial strain that produces B1 **protein**, e.g. Moraxella catarrhalis, comprises growing the bacteria in culture in iron-depleted medium to enhance the expression of the B1 **protein**, harvesting the bacteria from the culture, extg. from the harvested bacteria a prepn. substantially comprising an outer membrane **protein** prepn., contacting the outer membrane prepn. with an affinity matrix contg. immobilized transferrin wherein B1 **protein** binds to the transferrin, and eluting the bound B1 **protein** from the transferrin. Disclosed are the uses of the B1 **protein** as an immunogen for vaccine formulations, and as antigens in diagnostic immunoassays.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 24 OF 28 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER:	1997:596420 HCAPLUS
DOCUMENT NUMBER:	127:291797
TITLE:	Antigenic heterogeneity and molecular analysis of CopB of Moraxella (Branhamella) catarrhalis
AUTHOR(S):	Sethi, S.; Surface, J. M.; Murphy, T. F.
CORPORATE SOURCE:	Division of Pulmonary Medicine, State University of New York at Buffalo, Buffalo, NY, USA
SOURCE:	Infection and Immunity (1997), 65(9), 3666-3671 CODEN: INFIBR; ISSN: 0019-9567
PUBLISHER:	American Society for Microbiology
DOCUMENT TYPE:	Journal
LANGUAGE:	English

AB Outer membrane **protein** (OMP) CopB, an iron-repressible 81-kDa major OMP of Moraxella (Branhamella) catarrhalis has been a major focus of investigation. To assess CopB as a potential vaccine antigen, the authors elucidated the degree of antigenic and sequence heterogeneity in this **protein** among strains of M. catarrhalis. Two monoclonal **antibodies**, 1F5 and 2.9F, which bind to surface-exposed epitopes on CopB recognized 60 and 70% of the strains, resp. The degree of sequence heterogeneity in CopB was assessed by cloning and sequencing the CopB gene from two different strains of M. catarrhalis and comparing with the published sequence. There was 92 to 96% homol. between the sequences at the nucleotide level and 90 to 95% homol. at the amino acid level. The variability in the **protein** sequence is confined mainly to three moderately variable regions. Restriction fragment length polymorphism (RFLP) anal. of the CopB genes obtained from 20 diverse strains by PCR was performed. Ninety percent of the potential restriction sites in the const. regions and 47% of the potential restriction sites in the variable regions were present in the 20 strains, indicating that the pattern of variable and const. areas in the CopB gene is a general pattern among strains of M. catarrhalis. The authors conclude that the CopB gene is largely conserved among

strains of M. catarrhalis and contains discrete regions which show moderate heterogeneity among strains.

L5 ANSWER 25 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1997:177696 HCAPLUS
DOCUMENT NUMBER: 126:249929
TITLE: The major outer membrane **protein**, CD, extracted from Moraxella (**Branhamella**) **catarrhalis** is a potential **vaccine antigen** that induces bactericidal **antibodies**
AUTHOR(S): Yang, Yan-ping; Myers, Lisa E.; McGuinness, Ursula; Chong, Pele; Kwok, Yan; Klein, Michel H.; Harkness, Robin E.
CORPORATE SOURCE: Research Center, Pasteur Merieux Connaught Canada, 1755 Steeles Ave. West, North York, ON, M2R 3T4, Can.
SOURCE: FEMS Immunology and Medical Microbiology (1997), 17(3), 187-199
CODEN: FIMIEV; ISSN: 0928-8244
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The major outer membrane **protein** of Moraxella (Branhamella) catarrhalis, CD, was detergent-extd. from the bacterial cell wall and purified to homogeneity in high yields by a simple process. The purified **protein** appeared to exhibit immunogenic properties similar to those of native CD exposed on the surface of the bacterium. **Antibodies** to CD raised in mice specifically bound to intact B. catarrhalis, as detd. by flow cytometry anal. The IgG subclass distributions of anti-CD **antibodies** in sera from mice immunized with purified CD or with B. catarrhalis were also similar. CD was found to be antigenically conserved among a panel of B. catarrhalis isolates, as demonstrated by the consistent reactivities of mouse anti-CD antisera with a common 60 kDa **protein** on immunoblots. Furthermore, convalescent sera collected from patients with otitis media due to B. catarrhalis infection were found to be reactive with the CD **protein** by immunoblotting. Finally, the purified **protein** induced **antibodies** in guinea pigs and mice that exhibited in vitro bactericidal activity against the pathogen. Therefore, the native CD outer membrane **protein** represents a potentially useful antigen for inclusion in a vaccine against B. catarrhalis.

L5 ANSWER 26 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:189964 HCAPLUS
DOCUMENT NUMBER: 118:189964
TITLE: Methods and compositions relating to useful antigens of Moraxella catarrhalis
INVENTOR(S): Hansen, Eric J.; Helminen, Merja; Maciver, Isobel
PATENT ASSIGNEE(S): University of Texas System, USA
SOURCE: PCT Int. Appl., 73 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9303761	A1	19930304	WO 1992-US6869	19920814
W: AT, AU, BB, BG, BR, CA, CH, CS, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, PL, RO, RU, SD, SE, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, SN, TD, TG				
US 5552146	A	19960903	US 1991-745591	19910815
AU 9224878	A1	19930316	AU 1992-24878	19920814
AU 666329	B2	19960208		
EP 612250	A1	19940831	EP 1992-918273	19920814
EP 612250	B1	19960724		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, NL, SE				
JP 07501210	T2	19950209	JP 1992-504481	19920814
AT 140627	E	19960815	AT 1992-918273	19920814
ES 2092696	T3	19961201	ES 1992-918273	19920814
US 5993826	A	19991130	US 1993-25363	19930302
NO 9400502	A	19940328	NO 1994-502	19940214
FI 9400681	A	19940407	FI 1994-681	19940214
US 5759813	A	19980602	US 1994-193150	19940919
US 5599693	A	19970204	US 1995-450002	19950525
US 5981213	A	19991109	US 1995-450351	19950525
NO 2000002413	A	20000509	NO 2000-2413	20000509

PRIORITY APPLN. INFO.: US 1991-745591 A2 19910815
WO 1992-US6869 A 19920814
US 1993-25363 A3 19930302

AB Selected antigenic **proteins** obtained from the outer membranes of M. catarrhalis are disclosed. These outer membrane **proteins** (OMPs) have mol. wts. of approx. 30 kDa, 80 kDa, and 200-700 kDa, resp. Studies demonstrated that monoclonal **antibodies** (MAbs) directed against these **proteins** confer a protective effect against infection by M. catarrhalis in animal models, demonstrating the potential usefulness of such **antibodies** in conferring passive immunity as well as the potential use of the OMPs (or variants thereof) in the prepn. of vaccines. DNA segments encoding the OMPs, methods for prepg. the antigens, and diagnostic methods are also disclosed. OMP isolation, anti-OMP MAb prodn., and cloning of genes for the OMPs are described.

L5 ANSWER 27 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1993:17456 HCAPLUS
DOCUMENT NUMBER: 118:17456
TITLE: Use of the purA gene as a selectable marker in stabilization and integration of plasmid or bacteriophage cloning vectors
INVENTOR(S): Brey, Robert Newton, III; Fulginiti, James Peter; Anilionis, Algis
PATENT ASSIGNEE(S): American Cyanamid Co., USA
SOURCE: Eur. Pat. Appl., 29 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 512260	A2	19921111	EP 1992-105887	19920406
EP 512260	A3	19930728		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, PT, SE				
AT 202800	E	20010715	AT 1992-105887	19920406
ES 2160573	T3	20011116	ES 1992-105887	19920406
JP 05192161	A2	19930803	JP 1992-134375	19920428
JP 3320095	B2	20020903		
NO 9201729	A	19921104	NO 1992-1729	19920430
CA 2067862	AA	19921104	CA 1992-2067862	19920501
AU 9215959	A1	19921105	AU 1992-15959	19920501
AU 654347	B2	19941103		
US 5919663	A	19990706	US 1995-380297	19950130
US 5961983	A	19991005	US 1995-448907	19950524

PRIORITY APPLN. INFO.: US 1991-695706 A 19910503
US 1994-204903 B1 19940302
US 1995-380297 A3 19950130

AB Host bacteria carrying deletions in the purA gene (for adenylosuccinate synthetase) are used as hosts for cloning vectors carrying the purA gene as a selectable marker. The vector is stabilized by selection and the purA gene also acts as a site for integration of the plasmid. The use of these vectors does not involve the use of antibiotic resistance markers and is therefore particularly suitable for hosts used in live vaccines. A pUC8-based plasmid carrying the Escherichia coli purA gene and the gene for the nontoxic subunit of the E. coli heat-labile enterotoxin was constructed and introduced into Salmonella dublin, S. typhimurium or Salmonella vaccine strains carrying deletions in the purA gene and transformants selected on minimal medium. This plasmid was maintained in cultures grown on a minimal medium without loss for 80 generations but lost rapidly in the absence of selection (1% retention in 40 generations). When the purA gene was used in integrating vectors the prototrophic phenotype was 100% stable for at least 80 generations in the presence or absence of selection.

L5 ANSWER 28 OF 28 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 1990:510481 HCAPLUS
DOCUMENT NUMBER: 113:110481
TITLE: Fusion **proteins** of flagellin and heterologous epitopes and attenuated bacteria expressing the chimeric genes as vaccines
INVENTOR(S): Marjarian, William Robert; Stocker, Bruce Arnold Dunbar; Newton, Salete Maria Cardozo
PATENT ASSIGNEE(S): Praxis Biologics, Inc., USA; Leland Stanford Junior University
SOURCE: PCT Int. Appl., 137 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8910967	A1	19891116	WO 1989-US1932	19890505
W: AU, DK, FI, JP, KR, NO				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				

AU 8936979	A1	19891129	AU 1989-36979	19890505
AU 637049	B2	19930520		
EP 419513	A1	19910403	EP 1989-906507	19890505
EP 419513	B1	19950426		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
JP 04502402	T2	19920507	JP 1989-505981	19890505
JP 2793673	B2	19980903		
AT 121782	E	19950515	AT 1989-906507	19890505
DK 9002633	A	19910104	DK 1990-2633	19901102
NO 9004806	A	19910103	NO 1990-4806	19901105
US 6130082	A	20001010	US 1992-837668	19920214

PRIORITY APPLN. INFO.: US 1988-190570 A 19880505
US 1989-348430 B1 19890505
WO 1989-US1932 A 19890505

AB Fusion **proteins** of flagellin and an antigenic epitope prepd. by expression of the chimeric gene are used as vaccines. Similarly, the bacterium expressing the chimeric gene is also used in vaccines. Vertebrate hosts can be immunized by administering an invasive, but attenuated, bacterium that is transfected with a recombinant DNA encoding the fusion **protein** to elicit cellular or humoral immune response. Expression of heterologous parasitic, bacterial, and viral epitopes, e.g.malarial circumsporozoite **protein** antigen, the B subunit of cholera toxin, the epitope of the CRM197 **protein** (residues 366-383; a mutant or Diptheria toxin) hepatitis B virus surface antigen, and rotavirus VP7 antigen, with Salmonella flagellin in attenuated Salmonella were demonstrated and their immunogenicity obsd.

(FILE 'MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO' ENTERED AT 10:10:09 ON 10 JUL 2003)
L6 65 S L5
L7 41 DUP REM L6 (24 DUPLICATES REMOVED)

L7 ANSWER 1 OF 41 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2003103950 MEDLINE
DOCUMENT NUMBER: 22483684 PubMed ID: 12595444
TITLE: Human immune response to outer membrane **protein** CD of Moraxella catarrhalis in adults with chronic obstructive pulmonary disease.
AUTHOR: Murphy Timothy F; Kirkham Charmaine; Liu Dai-Fang; Sethi Sanjay
CORPORATE SOURCE: Division of Infectious Diseases, University at Buffalo, The State University of New York, New York, USA.. murphyt@acsu.buffalo.edu
CONTRACT NUMBER: AI 28304 (NIAID)
AI 46422 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (2003 Mar) 71 (3) 1288-94. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200303
ENTRY DATE: Entered STN: 20030306
Last Updated on STN: 20030321
Entered Medline: 20030320

AB Moraxella catarrhalis is a common cause of lower respiratory tract

infection in adults with chronic obstructive pulmonary disease (COPD). The **antibody** response to outer membrane **protein** (OMP) CD, a highly conserved surface **protein** of **M. catarrhalis** under consideration as a **vaccine antigen**, was studied in adults with COPD following 40 episodes of infection or colonization. Following infection or colonization, 9 of 40 patients developed new serum immunoglobulin G (IgG) to OMP CD, as measured by enzyme-linked immunosorbent assay. Adsorption assays revealed that a proportion of the serum IgG was directed toward surface-exposed epitopes on OMP CD in six of the nine patients who developed new IgG to OMP CD. Immunoblot assays with fusion **peptide** constructs indicated that the new **antibodies** that developed after infection or colonization recognized conformational epitopes, particularly in the carboxy region of the **protein**. Three of 28 patients developed new mucosal IgA to OMP CD in sputum supernatants. This study establishes that OMP CD is a target of a systemic and mucosal immune response following infection and colonization in some patients with COPD.

L7 ANSWER 2 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2003-120786 [11] WPIDS
DOC. NO. CPI: C2003-031351
TITLE: New Staphylococcus aureus **protein**, useful as a vaccine for treating or preventing Staphylococcal infection, specifically an infection caused by S. aureus, e.g. sepsis.
DERWENT CLASS: B04 D16
INVENTOR(S): MASIGNANI, V; MORA, M; SCARSELLI, M
PATENT ASSIGNEE(S): (CHIR-N) CHIRON SPA
COUNTRY COUNT: 100
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002094868	A2	20021128	(200311)*	EN	49

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002094868	A2	WO 2002-IB2637	20020327

PRIORITY APPLN. INFO: GB 2001-7661 20010327
AN 2003-120786 [11] WPIDS
AB WO 200294868 A UPAB: 20030214
NOVELTY - A **protein** (designated an SA **protein**), which is from Staphylococcus aureus, is new, where the SA **protein** comprises:
(i) any of 2821 amino acid sequences not given in the

specification;
(ii) a **protein** having 50 % or greater sequence identity to (i); or
(iii) a fragment of (i).
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) an **antibody** that binds to the SA **protein**;
(2) a nucleic acid molecule encoding the SA **protein**;
(3) a composition comprising the SA **protein**, nucleic acid molecule, or **antibody**;
(4) kits comprising:
(i) primers for amplifying a target sequence contained within a Staphylococcus nucleic acid sequence; or
(ii) a first and a second single-stranded oligonucleotide, which allow amplification of a Staphylococcus template nucleic acid sequence contained in a single- or double-stranded nucleic acid (or mixtures of it);
(5) a hybrid **protein** represented by the formula (I); and
(6) an assay comprising contacting a test compound with the SA **protein**, and determining whether the test compound binds to the **protein**.
NH2-A-(-X-L-)n-B-COOH (I)
X = amino acid sequence of the new SA **protein**;
L = an optional linker amino acid sequence;
A = an optional N-terminal amino acid sequence;
B = an optional C-terminal amino acid sequence; and
n = an integer greater than 1.
ACTIVITY - Antibacterial. No biological data is given.
MECHANISM OF ACTION - Vaccine; Gene therapy.
USE - A composition comprising the SA **protein**, a nucleic acid encoding the **protein**, or an **antibody** to the **protein**, is useful as a pharmaceutical, particularly as a vaccine for treating or preventing infection due to Staphylococcus bacteria, specifically an infection caused by S. aureus. The composition is particularly useful for treating or preventing sepsis in a patient. The composition can also be used for diagnostics. The SA **protein** is also used in an assay (all claimed), for enzymatic studies and as a target for antibiotics.
Dwg.0/0

L7 ANSWER 3 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2003-120525 [11] WPIDS
DOC. NO. NON-CPI: N2003-096032
DOC. NO. CPI: C2003-031110
TITLE: New Moraxella catarrhalis **protein**, useful for preparing an immunogenic composition, preferably a vaccine for treating or preventing Moraxella catarrhalis infection.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): PEEK, K; THOMSON, S; WILKINSON, M
PATENT ASSIGNEE(S): (PROV-N) PROVALIS UK LTD
COUNTRY COUNT: 100
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 2002090383 A2 20021114 (200311)* EN 98
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW MZ NL OA PT SD SE SL SZ TR TZ UG ZM ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ
DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP
KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ
NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ
UA UG US UZ VN YU ZA ZM ZW

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002090383 A2		WO 2002-GB2205	20020510

PRIORITY APPLN. INFO: GB 2001-19479 20010809; GB 2001-11492 20010510; GB 2001-12448 20010522

AN 2003-120525 [11] WPIDS

AB WO 200290383 A UPAB: 20030214

NOVELTY - **Proteins** derived from Moraxella catarrhalis are new.

DETAILED DESCRIPTION - **Proteins** derived from Moraxella catarrhalis are new.

The Moraxella catarrhalis **protein** (P1) has an NH2-terminal sequence selected from:

(a) MAFTLPELGYSYDALEPGFDK(N)EA(T)XM(G)L;
(b) MKQPV(T)RVAXT;
(c) TTQNNQQNGKVAIVTS(X)AAG(X)LS(X)NAIA(S)T(S)RL;
(d) GVSFAKDIGDKLFHR(S)N(P)K(A)KQ(E)D(P)T(A)AQE(P)I(T)AN(A)LL;
(e) ADFNKILDAGNVDDQ(G)I;
(f) MIQDIFTDLE;
(g) MQNEIKQAGG;
(h) N(E or K)FVEDQD(X)YQ(X)VLP;
(i) A(Q)AIINQTIPEFXTQAYVNG(X)E(X);
(j) MNKSELVDG(T)IAQXAGLT;
(k) KLGNITSPSGDSA; and/or
(l) FXPFNLN.

where

X = any amino acid.

Amino acids in brackets represent an alternative to the preceding amino acid.

INDEPENDENT CLAIMS are also included for the following:

(1) a **protein** (P2) which is a homologue or derivative of P1;

(2) an antigenic or immunogenic fragment of P1 or P2;

(3) an antigen composition comprising one or more **proteins** and/or one or more fragments;

(4) a method of detecting and/or diagnosing Moraxella catarrhalis;

(5) an **antibody** capable of binding to P1 or P2;

(6) a kit for detection and/or diagnosis of Moraxella catarrhalis comprising the **protein**, fragment, antigen composition or **antibody**;

(7) a composition capable of eliciting an immune response in a subject, comprising P1, P2, or their fragments or the antigen composition of (3);

(8) a method for treating or preventing Moraxella catarrhalis infection in a subject, comprising administering P1, P2, or their fragments, or the antigen composition of (3);

(9) a nucleic acid molecule comprising a sequence which is:

(i) the equivalent DNA sequence of the **proteins**, fragments or antigen composition, or their equivalents;

(ii) a sequence that is complementary to the sequence of (i);

(iii) a sequence that codes for the same protein or polypeptide, as the sequence of (i) or (ii);

(iv) a sequence having identity with (i)-(iii);

(v) a sequence that codes for a homologue, derivative or fragment of the protein;

(10) a vector comprising the nucleic acid molecule of (9);

(11) a host cell transformed with the vector of (10);

(12) a vaccine composition comprising one or more nucleic acid molecules of (9);

(13) a method for detecting/diagnosing Moraxella catarrhalis, comprising using the nucleic acid of (9) as a detecting agent;

(14) a method for determining whether the protein represents a potential antimicrobial target, comprising inactivating the protein and determining whether Moraxella catarrhalis is still viable in vitro or in vivo; and

(15) use of an agent capable of antagonizing, inhibiting or otherwise interfering with the function or expression of P1, or P2 in the manufacture of a medicament for the treatment or prophylaxis of Moraxella catarrhalis infection.

ACTIVITY - Antibacterial.

A study determining the recovery of the bacteria from the lungs of mice challenged with Moraxella catarrhalis was carried out. Mice immunized with recombinant I2D-18 did not appear to afford any clearance of bacteria from the lungs. This was in contrast to the purified native protein. However, different immunization regimes were used that may account for this difference. Nevertheless, for recombinant ID2-20 significant clearance of bacteria was observed using the subcutaneous route of vaccination for both bronchoalveolar lavage (BAL) and lung homogenate (LH) recovered bacteria demonstrating it is also a good vaccine candidate.

Using sera collected from immunized mice western blotting was performed using whole cell extracts from a number of Moraxella catarrhalis strains. The results for antisera raised against recombinant I2D-18 are given in the specification. Although antibodies recognized the purified recombinant protein, no reaction was observed to whole cell extracts. In contrast I2D-20 antisera recognized one protein in all strains for which whole-cell extracts were tested, indicating that the protein was widespread and conserved between strains.

MECHANISM OF ACTION - Vaccine; Protein function/expression antagonist.

No biological data given.

USE - The protein is useful for detecting Moraxella catarrhalis or for preparing an immunogenic composition, preferably a vaccine for treating or preventing Moraxella catarrhalis infection (claimed).

Dwg.0/32

L7 ANSWER 4 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2002-352536 [38] WPIDS
DOC. NO. CPI: C2002-100176

TITLE: New Streptococcus **protein** for the treatment or prevention of infection or disease caused by Streptococcus bacteria, such as meningitis, and for detecting a compound that binds to the **protein**.

DERWENT CLASS: B04 C06 D16

INVENTOR(S): FRASER, C; GRANDI, G; MARGARIT Y ROS, I; MASIGNANI, V; TELFORD, J; TETTELIN, H

PATENT ASSIGNEE(S): (CHIR-N) CHIRON SPA; (GENO-N) INST GENOMIC RES

COUNTRY COUNT: 98

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2002034771	A2	20020502	(200238)*	EN	
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2002014127	A	20020506	(200257)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2002034771	A2	WO 2001-GB4789	20011029
AU 2002014127	A	AU 2002-14127	20011029

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2002014127	A Based on	WO 200234771

PRIORITY APPLN. INFO: GB 2001-5640 20010307; GB 2000-26333 20001027; GB 2000-28727 20001124

AN 2002-352536 [38] WPIDS

AB WO 200234771 A UPAB: 20020618

NOVELTY - A **protein** (I) from group B streptococcus (Streptococcus agalactiae) or group A streptococcus (Streptococcus pyogenes), comprising one of 5483 sequences (S1), given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a **protein** having 50 % or greater sequence identity to (I);

(2) a **protein** comprising a fragment of 7 or more consecutive amino acids from (S1);

(3) an **antibody** which binds (I);

(4) a nucleic acid encoding (I);

(5) a nucleic acid comprising one of 1057 sequences (S2), given in the specification;

(6) a nucleic acid comprising a fragment of 10 or more consecutive nucleotides from one of 6540 sequences (S3), given in the specification, which includes the sequences of (S2);

(7) a nucleic acid comprising a sequence complementary to one of (4) - (6);

(8) a nucleic acid comprising a sequence having 50 % or greater sequence identity to one of (4) - (7);

(9) a nucleic acid that can hybridize to (4) - (8), under high stringency conditions;

(10) a composition comprising (I), or one of (1) - (9);

(11) the use of (10) in the manufacture of a medicament for the treatment of prevention of infection or disease caused by streptococcus bacteria, particularly S. agalactiae and S. pyrogenes;

(12) treating a patient comprising administering (10);

(13) a hybrid **protein** of formula (F);

(14) a kit comprising primers for amplifying a template sequence contained within a Streptococcus nucleic acid sequence, where the kit comprises one primer complementary to the template sequence and a second primer complementary to a complement of the template sequence, and the parts of the primers which have complementarity define the termini of the template sequence to be amplified;

(15) a kit comprising two single-stranded oligonucleotides which allow amplification of a Streptococcus template nucleic acid contained in a single- or double-stranded nucleic acid (or mixture of it) where:

(a) one oligonucleotide comprises a primer sequence complementary to the template nucleic acid sequence;

(b) the second oligonucleotide comprises a primer sequence complementary to the complement of the template nucleic acid sequence;

(c) either or both oligonucleotides comprise a sequence(s) not complementary to the template nucleic acid sequence; and

(d) the primer sequences define the termini of the template sequence to be amplified;

(16) a computer readable medium containing one of 12024 sequences (S4), given in the specification;

(17) detecting Streptococcus in a biological sample comprising contacting (4) - (9) with the sample under hybridizing conditions;

(18) determining whether a compound binds to (I), (1), or (2), comprising contacting a test compound with the **protein** and determining binding;

(19) a compound identified by (18);

(20) a composition comprising (1), (1), or (2) and one of:

(i) a **protein** antigen from Helicobacter pylori and/or Neisseria meningitidis serogroup B;

(ii) an outer-membrane vesicle (OMV) preparation from N. meningitidis serogroup B;

(iii) a saccharide antigen from N. meningitidis serogroup A, C, W135 and/or Y, or Streptococcus pneumoniae;

(iv) an antigen from hepatitis A, B, or C virus, and/or Bordetella pertussis;

(v) a diphtheria and/or tetanus antigen;

(vi) a saccharide antigen from Haemophilus influenzae B;

(vii) an antigen from N. gonorrhoeae, Chlamydia pneumoniae, C. trachomatis, and/or Porphyromonas gingivalis;

(viii) a polio and/or rabies antigen(s);

(ix) measles, mumps, and/or rubella antigens;

(x) an influenza antigen(s);

(xi) an antigen from Moraxella catarrhalis; and/or

(xii) an antigen from Staphlococcus aureus; and

(21) a composition comprising two or more proteins of (1), (1), or (2).

NH2-A-(-X-L-)n-B-COOH (F)

X = (I);

L = an optional linker amino acid sequence;

A = an optional N-terminal amino acid sequence;

B = an optional C-terminal amino acid sequence; and

n = an integer greater than 1.

ACTIVITY - Antibacterial; antiinflammatory. No suitable biological data is given.

MECHANISM OF ACTION - Gene therapy; vaccine.

USE - (I), nucleic acids encoding (I), and antibodies that bind (I) are used in the manufacture of medicaments for the treatment of prevention or infection or disease caused by Streptococcus bacteria, particularly S. agalactiae and S. pyrogenes. Nucleic acid encoding (I) is used to detect Streptococcus in a biological sample. (I) is used to determine whether a compound binds to (I). A composition comprising (I) or a nucleic acid encoding (I), may be used as a vaccine or diagnostic composition (all claimed). The disease caused by Streptococcus that is prevented or treated may be meningitis. Nucleic acid encoding (I) may be used to recombinantly produce (I). Antibodies to (I) are used for affinity chromatography, immunoassays, and distinguishing/identifying Streptococcus proteins. Dwg.0/319

L7 ANSWER 5 OF 41 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

ACCESSION NUMBER: 2002023188 EMBASE

TITLE: Moraxella catarrhalis: From emerging to established pathogen.

AUTHOR: Verduin C.M.; Hol C.; Fleer A.; Van Dijk H.; Van Belkum A.

CORPORATE SOURCE: C.M. Verduin, Department of Medical Microbiology, Erasmus University Medical Center, Rotterdam EMCR, Dr. Molewaterplein 40, 3015 GD Rotterdam, Netherlands. verduin@bacl.azr.nl

SOURCE: Clinical Microbiology Reviews, (2002) 15/1 (125-144). Refs: 256
ISSN: 0893-8512 CODEN: CMIREX

COUNTRY: United States

DOCUMENT TYPE: Journal; General Review

FILE SEGMENT: 004 Microbiology
026 Immunology, Serology and Transplantation
037 Drug Literature Index

LANGUAGE: English

SUMMARY LANGUAGE: English

AB Moraxella catarrhalis (formerly known as Branhamella catarrhalis) has emerged as a significant bacterial pathogen of humans over the past two decades. During this period, microbiological and molecular diagnostic techniques have been developed and improved for M. catarrhalis, allowing the adequate determination and taxonomic positioning of this pathogen. Over the same period, studies have revealed its involvement in respiratory (e.g., sinusitis, otitis media, bronchitis, and pneumonia) and ocular infections in children and in laryngitis, bronchitis, and pneumonia in adults. The development of (molecular) epidemiological tools has enabled the national and international distribution of M. catarrhalis strains to be established, and has allowed the monitoring of nosocomial infections and the dynamics of carriage. Indeed, such monitoring has

revealed an increasing number of .beta.-lactamase-positive M. catarrhalis isolates (now well above 90%), underscoring the pathogenic potential of this organism. Although a number of putative M. catarrhalis virulence factors have been identified and described in detail, their relationship to actual bacterial adhesion, invasion, complement resistance, etc. (and ultimately their role in infection and immunity), has been established in a only few cases. In the past 10 years, various animal models for the study of M. catarrhalis pathogenicity have been described, although not all of these models are equally suitable for the study of human infection. Techniques involving the molecular manipulation of **M. catarrhalis** genes and **antigens** are also advancing our knowledge of the host response to and pathogenesis of this bacterial species in humans, as well as providing insights into possible **vaccine** candidates. This review aims to outline our current knowledge of M. catarrhalis, an organism that has evolved from an emerging to a well-established human pathogen.

L7 ANSWER 6 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-244783 [25] WPIDS
DOC. NO. NON-CPI: N2001-174285
DOC. NO. CPI: C2001-073454
TITLE: Novel BASB129-BASB131 **polypeptides** isolated from Moraxella catarrhalis bacterium useful as a diagnostic reagent for M.catarrhalis infections and for producing vaccines against otitis media and pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001019862	A2	20010322	(200125)*	EN	80
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2001013839	A	20010417	(200140)		
EP 1214339	A2	20020619	(200240)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001019862	A2	WO 2000-EP9034	20000914
AU 2001013839	A	AU 2001-13839	20000914
EP 1214339	A2	EP 2000-975853	20000914
		WO 2000-EP9034	20000914

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001013839	A	Based on	WO 200119862
EP 1214339	A2	Based on	WO 200119862

PRIORITY APPLN. INFO: GB 1999-22829 19990925; GB 1999-21693 19990914; GB 1999-21694 19990914

AN 2001-244783 [25] WPIDS

AB WO 200119862 A UPAB: 20010508

NOVELTY - Isolated Moraxella catarrhalis BASB129-BASB131 **polypeptides** (I) comprising a fully defined sequence of 344 (S2), 678 (S4), 469 (S6) amino acids, respectively as given in the specification, or an isolated **polypeptide** (Ia) which has 85% identity to (S2), (S4) or (S6), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment (II), of (I) which has the same immunogenic activity as (I);

(2) an isolated polynucleotide (III), or its complementary nucleotide sequence comprising a nucleotide sequence:

(i) encoding a **polypeptide** that has 85% identity over the entire length of (S2), (S4), (S6);

(ii) that has 85% identity over the entire length of the nucleotide sequence encoding region which encodes (S2), (S4), (S6);

(iii) which has 85% identity over the entire length of a fully defined nucleotide sequence of 1035 (S1), 2037 (S3), 1410 (S5), base pairs as given in the specification;

(iv) comprising a nucleotide sequence encoding (I) obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (S1), (S3), (S5);

(v) encoding (S2), (S4) or (S6); or

(vi) an isolated polynucleotide comprising (S1), (S3) or (S5);

(3) an expression vector (IV), or a recombinant live microorganism comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of the host cell expressing (I);

(5) preparation of (I) or (II);

(6) expressing (III) involves transforming (V) with (IV) which contains any one of the polynucleotides (III) given above and culturing (V) under suitable conditions to express (III);

(7) a vaccine composition which comprises (I) or (II);

(8) a vaccine composition which comprises (III);

(9) an **antibody** (Ab) immunospecific for (I) or (II); and

(10) a therapeutic composition comprising an **antibody** directed against (I) useful in treating humans with M.catarrhalis disease.

ACTIVITY - Antiinflammatory; auditory.

MECHANISM OF ACTION - Gene therapy; vaccine; initial physical attraction between a pathogen and a mammalian extracellular matrix **protein** inhibitor.

The biological activity of (I) was tested in mice. Groups of mice were immunized with BASB129, BASB130 and BASB131 vaccine. After the booster, the mice were challenged by bacterial suspension into the nostril under anesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed and

homogenized. The log10 weighted mean number of colony forming unit (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log10 weighted mean number of CFU/lung and the standard deviations were calculated for each group. Results were analyzed statistically. Results showed that BASB129, BASB130 and BASB131 vaccine induced significant lung clearance as compared to the control group.

USE - The composition comprising (I), (II) or (III) is useful for preparation of a medicament used for generating an immune response in an animal. (I) is also useful as diagnostic reagent for M.catarrhalis which involves identifying (I), an **antibody** against (I) present within the biological sample from an animal suspected of having such an infection (claimed). Fragments of (I) are useful for producing corresponding full length **polypeptides** by **peptide** synthesis. The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB129-BASB131 and to isolate cDNA and genomic clones of other genes that have high sequence identity to BASB129-BASB131 gene. The polynucleotide sequences can also be used in the discovery and development of antibacterial compounds. The encoded **protein** can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Dalgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The polynucleotides are also useful as diagnostic reagents in which the mutations in the polynucleotide sequence may be detected and used to diagnose and/or prognose the infection or its stage or course. The polynucleotides may be used as components of arrays which have diagnostic and prognostic uses. **Antibodies** against (I) are useful for treating bacterial infections and to isolate or identify clones expressing (I) or (II), to purify the **polypeptides** by affinity chromatography. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (S1), (S3) or (S5) are used as PCR (polymerase chain reaction) primers. The polynucleotides are also useful in the diagnosis of the stage of infection and type of infection the pathogen has attained. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to mammalian, host thus preventing the sequelae of infection. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with M.catarrhalis to identify **protein** groups able to provoke a prophylactic or therapeutic immune response. The vaccine comprising (I), (II) or (III) is useful for treating Moraxella catarrhalis infections such as sinusitis, nosocomial infections, otitis media and pneumonia.

Dwg.0/0

L7 ANSWER 7 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159876 [16] WPIDS
DOC. NO. NON-CPI: N2001-116486

DOC. NO. CPI: C2001-047628
TITLE: New BASB117 **polypeptides** from Moraxella catarrhalis strain MC2931 (ATCC 43617), useful as therapeutic agents or vaccines against bacterial (especially M. catarrhalis) infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009339	A2	20010208	(200116)*	EN	79

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000065688	A		20010219	(200129)	
EP 1206547	A2		20020522	(200241)	EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009339	A2	WO 2000-EP7422	20000731
AU 2000065688	A	AU 2000-65688	20000731
EP 1206547	A2	EP 2000-953131	20000731
		WO 2000-EP7422	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000065688	A	Based on	WO 200109339
EP 1206547	A2	Based on	WO 200109339

PRIORITY APPLN. INFO: GB 1999-18206 19990803
AN 2001-159876 [16] WPIDS
AB WO 200109339 A UPAB: 20010323
NOVELTY - Moraxella catarrhalis strain MC2931 (ATCC 43617) BASB117 **polypeptides**, both of 216 amino acids (I and II) as defined in the specification, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (P1) comprising an amino acid sequence which has at least 85%, preferably 100%, identity to (I) or (II) over their entire length;

(2) an immunogenic fragment (P2) of the **polypeptide**, in which the immunogenic activity of the fragment is substantially the same as (I) or (II);

(3) an isolated polynucleotide (N1) selected from:

(a) a nucleotide sequence encoding (I), (II), P1 or P2;

(b) an isolated polynucleotide comprising a nucleotide sequence encoding a **polypeptide** that has at least 85%, preferably 95%, identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(c) an isolated polynucleotide comprising a nucleotide sequence that has at least 85%, preferably 95%, identity to a nucleotide sequence encoding (I) or (II) over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(d) an isolated polynucleotide comprising the 648 (III) or 651 basepair (bp) sequence (IV) fully defined in the specification;

(e) an isolated polynucleotide comprising a nucleotide sequence which has at least 85%, preferably 95%, identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(f) a nucleotide sequence encoding (I) or (II) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having the sequence of (III), (IV) or its fragments;

(4) an expression vector or a recombinant live microorganism comprising N1;

(5) a host cell comprising the expression vector of (4), or a subcellular fraction or membrane of the host cell expressing P1;

(6) a process for producing (I), (II), P1 or P2 by culturing the host cell of (5);

(7) a process for expressing N1 comprising transforming a host cell with the expression vector of (4) and culturing the host cell;

(8) a vaccine compositions comprising (I), (II), P1 or P2 or N1;

(9) an **antibody** immunospecific for (I), (II), P1 or P2;

(10) a method for diagnosing a Moraxella catarrhalis infection comprising identifying (I), (II), P1 or P2 or the **antibody** of (9) present within a biological sample from an animal suspected of having such an infection; and

(11) a therapeutic composition for treating humans with Moraxella catarrhalis disease, comprising at least one **antibody** against (I), (II), P1 or P2.

ACTIVITY - Antibacterial; ophthalmological; antiinflammatory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized with the **polypeptide** (BASB117) or with a killed whole cells (kwc) preparation of Moraxella catarrhalis or sham immunized.

After booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log10 weighted mean number of CFU/lung and the standard deviations were calculated for each group.

No results are given.

USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections,

particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.
Dwg.0/2

L7 ANSWER 8 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159875 [16] WPIDS
DOC. NO. NON-CPI: N2001-116485
DOC. NO. CPI: C2001-047627
TITLE: New BASB116 **polypeptides** from Moraxella catarrhalis strain MC2931 (ATCC 43617), useful as therapeutic agents or vaccines against bacterial (especially M. catarrhalis) infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009338	A1	20010208	(200116)*	EN	79
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000062788	A	20010219	(200129)		
EP 1206545	A1	20020522	(200241)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009338	A1	WO 2000-EP7421	20000731
AU 2000062788	A	AU 2000-62788	20000731
EP 1206545	A1	EP 2000-949429	20000731
		WO 2000-EP7421	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000062788	A	Based on	WO 200109338
EP 1206545	A1	Based on	WO 200109338

PRIORITY APPLN. INFO: GB 1999-18279 19990803
AN 2001-159875 [16] WPIDS
AB WO 200109338 A UPAB: 20010323
NOVELTY - Two Moraxella catarrhalis strain MC2931 (ATCC 43617) BASB116 **polypeptides**, both of 98 amino acids (I and II) as defined in the specification, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (P1) comprising an amino acid sequence which has at least 85%, preferably 100%, identity to (I) or (II) over their entire length;

(2) an immunogenic fragment (P2) of the **polypeptide**, in which the immunogenic activity of the fragment is substantially the same as (I) or (II);

(3) an isolated polynucleotide (N1) selected from:

(a) a nucleotide sequence encoding (I), (II), P1 or P2;

(b) an isolated polynucleotide comprising a nucleotide sequence encoding a **polypeptide** that has at least 85% identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(c) an isolated polynucleotide comprising a nucleotide sequence that has at least 85%, preferably 95%, identity to a nucleotide sequence encoding (I) or (II) over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(d) an isolated polynucleotide comprising the 297 (III) or 294 (IV) basepair (bp) sequence fully defined in the specification;

(e) an isolated polynucleotide comprising a nucleotide sequence which has at least 85%, preferably 95%, identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(f) a nucleotide sequence encoding (I) or (II) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having the sequence of (III), (IV) or its fragments;

(4) an expression vector or a recombinant live microorganism comprising N1;

(5) a host cell comprising the expression vector of (4), or a subcellular fraction or membrane of the host cell expressing P1;

(6) a process for producing (I), (II), P1 or P2 by culturing the host cell of (5);

(7) a process for expressing N1 comprising transforming a host cell with the expression vector of (4) and culturing the host cell;

(8) a vaccine compositions comprising (I), (II), P1 or P2 or N1;

(9) an **antibody** immunospecific for (I), (II), P1 or P2;

(10) a method for diagnosing a Moraxella catarrhalis infection comprising identifying (I), (II), P1 or P2 or the **antibody** of (9) present within a biological sample from an animal suspected of having such an infection; and

(11) a therapeutic composition for treating humans with Moraxella catarrhalis disease, comprising at least one **antibody** against (I), (II), P1 or P2.

ACTIVITY - Antibacterial; ophthalmological; antiinflammatory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized with the **polypeptide** (BASB116) or with a killed whole cells (kwc) preparation of Moraxella catarrhalis or sham immunized.

After booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log10 weighted mean number of CFU/lung and the standard deviations were calculated for each group.

No results are given.

USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.

Dwg.0/2

L7 ANSWER 9 OF 41 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-159874 [16] WPIDS
DOC. NO. NON-CPI: N2001-116484
DOC. NO. CPI: C2001-047626
TITLE: New BASB122 and BASB124 **polypeptides** and polynucleotides from Moraxella catarrhalis strain ATCC 43617, useful as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009337	A2	20010208	(200116)*	EN	75

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE

DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
YU ZA ZW
AU 2000065683 A 20010219 (200129)
EP 1204749 A2 20020515 (200239) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK
NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009337	A2	WO 2000-EP7365	20000731
AU 2000065683	A	AU 2000-65683	20000731
EP 1204749	A2	EP 2000-953120	20000731
		WO 2000-EP7365	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000065683	A	Based on	WO 200109337
EP 1204749	A2	Based on	WO 200109337

PRIORITY APPLN. INFO: GB 1999-18036 19990730; GB 1999-18034 19990730

AN 2001-159874 [16] WPIDS

AB WO 200109337 A UPAB: 20010323

NOVELTY - New isolated **polypeptides**, comprising either of two 111 amino acid (I) or two 328 amino acid (II) sequences from Moraxella catarrhalis, all fully defined in the specification, or an at least 85 % identical sequence over their entire length, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide encoding the novel **polypeptide**, comprising:

(a) a sequence encoding the novel **polypeptide**;

(b) a sequence having at least 85 % identity to (a) over its entire length;

(c) a 336 (III) or 987 (IV) base pair sequence, both fully defined in the specification;

(d) a sequence at least 85 % identical to (III) or (IV) over their entire length;

(e) the complements of (a)-(d); or

(f) a sequence encoding (I) or (II) obtained by screening a library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of them;

(2) a statement vector or a recombinant live microorganism, comprising the polynucleotide of (1);

(3) a host cell comprising the vector of (2), or a subcellular fraction or membrane of the host cell expressing the novel **polypeptide**;

(4) a process for producing the novel **polypeptide**, comprising culturing the host cell of (3) under expression conditions, and recovering the **polypeptide**;

(5) a process for expressing the polynucleotide of (1), comprising transforming a host cell with the vector of (2), and

culturing the cell for expression of the polynucleotide;
(6) a vaccine composition comprising the novel **polypeptide** or the polynucleotide of (1), and a carrier;
(7) an **antibody** immunospecific for the novel **polypeptide** or its immunological fragment;
(8) a method for diagnosing a M. catarrhalis infection, comprising identifying the novel **polypeptide** or the **antibody** of (7) present within a biological sample; and
(9) a therapeutic composition comprising at least one **antibody** against the novel **polypeptide**.
ACTIVITY - Antibacterial; antiinflammatory; auditory.
MECHANISM OF ACTION - Vaccine; gene therapy.
No biological data is given.
USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection. (All claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.
Dwg.0/0

L7 ANSWER 10 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159873 [16] WPIDS
DOC. NO. NON-CPI: N2001-116483
DOC. NO. CPI: C2001-047625
TITLE: New BASB119 **polypeptides** and polynucleotides from Moraxella catarrhalis strain ATCC 43617, useful as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009336	A1	20010208	(200116)*	EN	82

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG

KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
YU ZA ZW
AU 2000069887 A 20010219 (200129)
EP 1206549 A1 20020522 (200241) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK
NL PT RO SE SI
CN 1377411 A 20021030 (200314)
JP 2003506045 W 20030218 (200315) 82

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009336	A1	WO 2000-EP7363	20000731
AU 2000069887	A	AU 2000-69887	20000731
EP 1206549	A1	EP 2000-958324	20000731
		WO 2000-EP7363	20000731
CN 1377411	A	CN 2000-813833	20000731
JP 2003506045	W	WO 2000-EP7363	20000731
		JP 2001-514128	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000069887	A	Based on	WO 200109336
EP 1206549	A1	Based on	WO 200109336
JP 2003506045	W	Based on	WO 200109336

PRIORITY APPLN. INFO: GB 1999-18302 19990803
AN 2001-159873 [16] WPIDS
AB WO 200109336 A UPAB: 20010323
NOVELTY - New isolated **polypeptides**, comprising either of two 171 residue amino acid sequences (I and II) from Moraxella catarrhalis, both fully defined in the specification, or a sequence at least 85 % identical to (I) or (II), over their entire length, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide encoding the novel **polypeptide**, comprising:

(a) a sequence encoding (I) or (II);

(b) a sequence having at least 85 % identity to the sequence encoding (I) or (II) over the entire coding region;

(c) a 516 (III) or 513 (IV) base pair sequence, fully defined in the specification;

(d) a sequence having at least 85 % identity to (III) or (IV) over their entire length;

(e) the complements of (a)-(d); or

(f) a sequence encoding (I) or (II) obtained by screening a library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of (III) or (IV);

(2) an statement vector or a recombinant live microorganism comprising the polynucleotide of (1);

(3) a host cell comprising the vector of (2), or a subcellular fraction or membrane of the host cell expressing the novel **polypeptide**;

(4) a process for producing the novel **polypeptide**, comprising culturing the cell of (3) under expression conditions, and recovering the **polypeptide**;

(5) a process for expressing the polynucleotide of (1), comprising transforming a host cell with the vector of (2), and culturing the host cell for expression of the polynucleotide;

(6) vaccine compositions comprising the novel **polypeptide** or the polynucleotide of (1), and a carrier;

(7) an **antibody** immunospecific for the novel **polypeptide** or its immunological fragment;

(8) a method for diagnosing a M. catarrhalis infection, comprising identifying the novel **polypeptide** or the **antibody** present within a biological sample; and

(9) a therapeutic composition comprising at least one **antibody** against the novel **polypeptide**.

ACTIVITY - Antibacterial; antiinflammatory; auditory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized either with the **polypeptide** (BASB119) adsorbed onto AlPO4 (10 micro g BASB119 onto 100 micro g of AlPO4), with a killed whole cell (kwc) preparation of M. catarrhalis strain ATCC 43617 adsorbed onto AlPO4, or with 100 micro g AlPO4 without antigen. The mice were challenged with 5 multiply 105 colony forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge was calculated for each group. Sham immunized mice had 5.41 (+/-0.2) log10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.58 log difference). BASB119 vaccine induced a 1.34 log difference in lung clearance, which was significantly different from the control.

USE - The composition comprising the novel **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection. (All claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.

Dwg.0/3

L7 ANSWER 11 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159872 [16] WPIDS
DOC. NO. NON-CPI: N2001-116482
DOC. NO. CPI: C2001-047624

TITLE: New BASB120 **polypeptides** and polynucleotides from Moraxella catarrhalis strain American Type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.

DERWENT CLASS: B04 D16 S03

INVENTOR(S): THONNARD, J

PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS

COUNTRY COUNT: 95

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009335	A2	20010208	(200116)*	EN	75

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000064397 A 20010219 (200129)

EP 1206546 A2 20020522 (200241) EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009335	A2	WO 2000-EP7361	20000731
AU 2000064397	A	AU 2000-64397	20000731
EP 1206546	A2	EP 2000-951472	20000731
		WO 2000-EP7361	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000064397	A	Based on	WO 200109335
EP 1206546	A2	Based on	WO 200109335

PRIORITY APPLN. INFO: GB 1999-18281 19990803

AN 2001-159872 [16] WPIDS

AB WO 200109335 A UPAB: 20010323

NOVELTY - An isolated **polypeptide** (PP) comprising:

(a) a sequence of 250 amino acids (I) from Moraxella catarrhalis, given in the specification; or

(b) an amino acid sequence, which has at least 85% identity to (I), over the entire length of (I), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of the **polypeptide**, in which the immunogenic activity of the fragment is the same as (I);

(2) isolated polynucleotides, which encode the **polypeptides**, comprising:

(i) a nucleotide sequence encoding (PP);

(ii) a nucleotide sequence having 85% identity to the

nucleotide sequence encoding (I) over the entire coding region;

(iii) a 753 base pair (bp) DNA sequence (II), given in the specification;

(iv) a nucleotide sequence having 85% identity to (II) over the entire length of (II);

(v) the complements of (i)-(iv); or

(vi) a nucleotide sequence encoding (I) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (II) or its fragments;

(3) an expression vector or a recombinant live microorganism comprising (2);

(4) a host cell comprising the expression vector, or a subcellular fraction or membrane of the host cell expressing (PP);

(5) producing (PP) comprising culturing (4) to produce (PP) and recovering (PP) from the culture medium;

(6) expressing (2) comprising transforming a host cell with the expression vector and culturing the host cell for expression of any of the polynucleotides;

(7) vaccine compositions comprising (PP) or (2), and a pharmaceutical carrier;

(8) an **antibody** immunospecific for (PP) or immunological fragment of (1);

(9) diagnosing a M. catarrhalis infection comprising identifying (PP) or the **antibody** of (8) present within a biological sample from an animal suspected of having such an infection;

(10) using the compositions of (7) for preparing a medicament for use in generating an immune response in an animal; and

(11) a therapeutic composition comprising the **antibody** of (8).

ACTIVITY - Antibacterial; antiinflammatory; pulmonary.

MECHANISM OF ACTION - Vaccine; gene therapy. Clinical test details are described but no results are given.

USE - A composition comprising an immunologic amount of (PP) or a polynucleotide encoding it, is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging diseases, and determining the response of an infectious organism to drugs.

Dwg.0/2

L7 ANSWER 12 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159871 [16] WPIDS

DOC. NO. NON-CPI: N2001-116481
DOC. NO. CPI: C2001-047623
TITLE: New BASB118 **polypeptides** and polynucleotides from Moraxella catarrhalis strain American Type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS; (SMIK) SMITHKLINE BEECHAM BIOLOGICALS SA
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009334	A1	20010208	(200116)*	EN	77
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000068330	A	20010219	(200129)		
EP 1206548	A1	20020522	(200241)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2003506044	W	20030218	(200315)		77
CN 1391610	A	20030115	(200330)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009334	A1	WO 2000-EP7360	20000731
AU 2000068330	A	AU 2000-68330	20000731
EP 1206548	A1	EP 2000-956353	20000731
		WO 2000-EP7360	20000731
JP 2003506044	W	WO 2000-EP7360	20000731
		JP 2001-514126	20000731
CN 1391610	A	CN 2000-813834	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068330	A	Based on	WO 200109334
EP 1206548	A1	Based on	WO 200109334
JP 2003506044	W	Based on	WO 200109334

PRIORITY APPLN. INFO: GB 1999-18208 19990803
AN 2001-159871 [16] WPIDS
AB WO 200109334 A UPAB: 20010323
NOVELTY - An isolated **polypeptide** comprising:
(a) a sequence of 386 amino acids (I) from Moraxella catarrhalis, given in the specification; or
(b) an amino acid sequence, which has 85% identity to (I), over

the entire length of (I), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of the new **polypeptide**, in which the immunogenic activity of the fragment is the same as (I);

(2) isolated polynucleotides, which encode the new **polypeptide**, comprising:

(i) a nucleotide sequence encoding (a) or (b);

(ii) a nucleotide sequence that has 85% identity to the nucleotide sequence encoding (I) over the entire coding region;

(iii) a 1161 base pair (bp) DNA sequence (II), given in the specification;

(iv) a nucleotide sequence that has 85% identity to (II) over the entire length of (II);

(v) the complements of (i)-(iv); or

(vi) a nucleotide sequence encoding (I) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (II) or its fragments;

(3) an expression vector or a recombinant live microorganism comprising an isolated polynucleotide of (2);

(4) a host cell comprising the expression vector of (3), or a subcellular fraction or membrane of the host cell expressing the new **polypeptide**;

(5) producing the new **polypeptide** comprising culturing (4) to produce the new **polypeptide** and recovering it from the culture medium;

(6) expressing a polynucleotide of (2) comprising transforming a host cell with the expression vector of (3) and culturing the host cell for expression of any of the polynucleotides;

(7) vaccine compositions comprising the new **polypeptide** or polynucleotide of (2), and a pharmaceutical carrier;

(8) an **antibody** immunospecific for the new **polypeptide** or immunological fragment;

(9) diagnosing a M. catarrhalis infection comprising identifying the new **polypeptide** or the **antibody** of (8) present within a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition comprising an **antibody** of (8).

ACTIVITY - Antibacterial; antiinflammatory; pulmonary.

MECHANISM OF ACTION - Vaccine; gene therapy. Groups of mice were immunized either with the **polypeptide** (BASB118) adsorbed onto AlPO4 (10 micro g BASB118 onto 100 micro g of AlPO4), with a killed whole cell (kwc) preparation of M. catarrhalis strain American type Culture Collection (ATCC) 43617 adsorbed onto AlPO4, or with 100 micro g AlPO4 without antigen. The mice were challenged with 5 multiply 105 colony forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge was calculated for each group. Sham immunized mice had 5.66 (+/-0.18) log10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.3 log difference). BASB118 vaccine induced a 0.43 log difference in lung clearance, which was significantly different from the control.

USE - A composition comprising an immunologic amount of the new **polypeptide** or polynucleotide encoding it, is useful for

preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptide** may also be used as a prophylactic agent of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the new **polypeptide** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging diseases, and determining the response of an infectious organism to drugs.
Dwg.0/1

L7 ANSWER 13 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159870 [16] WPIDS
DOC. NO. NON-CPI: N2001-116480
DOC. NO. CPI: C2001-047622
TITLE: New BASB123 **polypeptides** and polynucleotides from Moraxella catarrhalis strain American type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009333	A2	20010208	(200116)*	EN	79

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000069880	A	20010219	(200129)		
EP 1216301	A2	20020626	(200249)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009333	A2	WO 2000-EP7296	20000727
AU 2000069880	A	AU 2000-69880	20000727
EP 1216301	A2	EP 2000-958311	20000727

WO 2000-EP7296 20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000069880	A	Based on	WO 200109333
EP 1216301	A2	Based on	WO 200109333

PRIORITY APPLN. INFO: GB 1999-17975 19990730
AN 2001-159870 [16] WPIDS
AB WO 200109333 A UPAB: 20010323
NOVELTY - An isolated **polypeptide** comprising:

(a) a sequence comprising one of two 167 amino acid sequences (designated I and II) from Moraxella catarrhalis, given in the specification; or

(b) an amino acid sequence, which has 85% identity to (I) or (II), over the entire length of (I) or (II), respectively, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of the new **polypeptide**, in which the immunogenic activity of the fragment is the same as (I) or (II);

(2) isolated polynucleotides, which encode the new **polypeptide**, comprising:

(i) a nucleotide sequence encoding (a) or (b);

(ii) a nucleotide sequence that has 85% identity to the nucleotide sequence encoding (I) or (II) over the entire coding region;

(iii) a 504 base pair (bp) (III) or 501 bp (IV) DNA sequence, given in the specification;

(iv) a nucleotide sequence that has 85% identity to (III) or (IV) over the entire length of (III) or (IV), respectively;

(v) the complements of (i)-(iv); or

(vi) a nucleotide sequence encoding (I) or (II) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of (III) or (IV);

(3) an expression vector or a recombinant live microorganism comprising a polynucleotide of (2);

(4) a host cell comprising the expression vector of (3), or a subcellular fraction or membrane of the host cell expressing the new **polypeptide**;

(5) producing the new **polypeptide** comprising culturing (4) t produce the **polypeptide** and recovering it from the culture medium;

(6) expressing a polynucleotide of (2) comprising transforming a host cell with the expression vector of (3) and culturing the host cell for expression of any of the polynucleotides;

(7) vaccine compositions comprising the new **polypeptide** or polynucleotide of (2), and a pharmaceutical carrier;

(8) an **antibody** immunospecific for the new **polypeptide** or an immunological fragment;

(9) diagnosing a M. catarrhalis infection comprising identifying the new **polypeptide** or the **antibody** of (8) present within a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition comprising an **antibody** of (8).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine; gene therapy. Clinical details are described but no results are given.

USE - A composition comprising an immunologic amount of the new **polypeptide** or polynucleotide encoding it, is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptide** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptide** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of diseases, and determining the response of an infectious organism to drugs.

Dwg.0/2

L7 ANSWER 14 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159869 [16] WPIDS
DOC. NO. NON-CPI: N2001-116479
DOC. NO. CPI: C2001-047621
TITLE: New BASB115 **polypeptide** from Moraxella catarrhalis strain MC2931 (ATCC 43617), useful as a therapeutic agent or vaccine against bacterial (especially M. catarrhalis) infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009332	A2	20010208	(200116)*	EN	72
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000068323	A	20010219	(200129)		
EP 1204752	A2	20020515	(200239)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2003506043	W	20030218	(200315)		75
CN 1378597	A	20021106	(200316)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009332	A2	WO 2000-EP7294	20000727
AU 2000068323	A	AU 2000-68323	20000727
EP 1204752	A2	EP 2000-956339	20000727
		WO 2000-EP7294	20000727
JP 2003506043	W	WO 2000-EP7294	20000727
		JP 2001-514124	20000727
CN 1378597	A	CN 2000-811104	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068323	A	Based on	WO 200109332
EP 1204752	A2	Based on	WO 200109332
JP 2003506043	W	Based on	WO 200109332

PRIORITY APPLN. INFO: GB 1999-18003 19990730
AN 2001-159869 [16] WPIDS
AB WO 200109332 A UPAB: 20010323
NOVELTY - A Moraxella catarrhalis strain MC2931 (ATCC 43617) BASB115 **polypeptide** of 199 amino acids (I) as defined in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (P1) comprising an amino acid sequence which has at least 85%, preferably 100%, identity to (I) over its entire length;

(2) an immunogenic fragment (P2) of the **polypeptide**, in which the immunogenic activity of the fragment is substantially the same as (I);

(3) an isolated polynucleotide (N1) selected from:

(a) a nucleotide sequence encoding (I), P1 or P2;

(b) an isolated polynucleotide comprising a nucleotide sequence encoding a **polypeptide** that has at least 85%, preferably 95%, identity to (I) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(c) an isolated polynucleotide comprising a nucleotide sequence that has at least 85%, preferably 95%, identity to a nucleotide sequence encoding (I) over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(d) an isolated polynucleotide comprising the 600 basepair (bp) sequence (II) fully defined in the specification;

(e) an isolated polynucleotide comprising a nucleotide sequence which has at least 85%, preferably 95%, identity to (I) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(f) a nucleotide sequence encoding (I) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having the sequence of (II) or its fragments;

(4) an expression vector or a recombinant live microorganism comprising N1;

(5) a host cell comprising the expression vector of (4), or a subcellular fraction or membrane of the host cell expressing P1;

(6) a process for producing (I), P1 or P2 by culturing the host

cell of (5);

(7) a process for expressing N1 comprising transforming a host cell with the expression vector of (4) and culturing the host cell;

(8) a vaccine compositions comprising (I), P1 or P2 or N1;

(9) an **antibody** immunospecific for (I), P1 or P2;

(10) a method for diagnosing a M. catarrhalis infection comprising identifying (I), P1 or P2 or the **antibody** of(9) present within a biological sample from an animal suspected of having such an infection; and

(11) a therapeutic composition for treating humans with M. catarrhalis disease, comprising at least one **antibody** against (I), P1 or P2.

ACTIVITY - Antibacterial; ophthalmological; antiinflammatory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized either with the **polypeptide** (BASB115) adsorbed onto AlPO4 (10 mu g BASB115 onto 100 mu g of AlPO4), with a killed whole cells (kwc) preparation of M. catarrhalis strain ATCC 43617 adsorbed onto AlPO4, or with 100 mu g AlPO4 without antigen. The mice were challenged with 5 x 105 colony forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge was calculated for each group. Sham immunized mice had 5.66 (+/-0.18) log10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.76 log difference). BASB115 vaccine induced a 0.46 log difference in lung clearance, which was significantly different from the control.

USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.

Dwg.0/1

L7 ANSWER 15 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-168707 [17] WPIDS
DOC. NO. NON-CPI: N2001-121639
DOC. NO. CPI: C2001-050432
TITLE: New BASB125 **polypeptide** isolated from Moraxella catarrhalis for treating, preventing and diagnosing diseases associated with M. catarrhalis infection in mammals, e.g. otitis media in humans.

DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009331	A2	20010208	(200117)*	EN	73
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000064393	A	20010219	(200129)		
EP 1212424	A2	20020612	(200239)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009331	A2	WO 2000-EP7291	20000727
AU 2000064393	A	AU 2000-64393	20000727
EP 1212424	A2	EP 2000-951466	20000727
		WO 2000-EP7291	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000064393	A	Based on	WO 200109331
EP 1212424	A2	Based on	WO 200109331

PRIORITY APPLN. INFO: GB 1999-18041 19990730
AN 2001-168707 [17] WPIDS
AB WO 200109331 A UPAB: 20010328
NOVELTY - An isolated **polypeptide** having at least 85 % identity to a sequence (I) of 134 amino acids for a Moraxella catarrhalis BASB125 **polypeptide**, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** of sequence (I);

(2) immunogenic fragments of the **polypeptide** having the same immunogenic activity as sequence (I);

(3) an isolated polynucleotide:

(i) having 85 % identity to a polynucleotide encoding the **polypeptide**, especially 85 % identity to sequence (II) of 405 base pairs (bp) encoding sequence (I);

(ii) complementary to a polynucleotide of (i);

(iii) encoding the new **polypeptide**; and

(iv) encoding sequence (I) and obtained by screening a library under stringent conditions using sequence (II) or a fragment as a probe;

(4) vectors or recombinant live microorganisms comprising the

polynucleotide;

(5) host cells comprising the vector and subcellular fragments/membranes of the host cells expressing the **polypeptide;**

(6) producing the new **polypeptide** comprising culturing the host cell of (5) to produce the **polypeptide** and recovering the **polypeptide** from the culture medium;

(7) expressing (3) comprising transforming a host cell with an expression vector of (4) and culturing the host cell to express the polynucleotide;

(8) vaccine compositions comprising the new **polypeptide** or (3);

(9) **antibodies** specific for the new **polypeptide,** or immunological fragments of (2);

(10) diagnosing a M. catarrhalis infection comprising identifying the new **polypeptide** or an **antibody** immunospecific for the **polypeptide,** present within a biological sample from an animal suspected of having the infection;

(11) preparing a medicament for generating an immune response in an animal using a composition comprising the new **polypeptide** or (3); and

(12) a therapeutic composition for treating humans with M.catarrhalis disease comprising an **antibody** against the new **polypeptide.**

ACTIVITY - Antibacterial. A sequence (II) of 405 base pairs (bp) was isolated from M. catarrhalis strain American Type Culture Collection (ATCC) 43617 by standard molecular biological techniques a sequence (I) of 134 amino acids deduced. Mice were immunized with a BASB125 vaccine or a killed whole cell (kwc) M. catarrhalis preparation, or were sham immunized. After a booster, mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed 30 minutes-24 hours after challenge and lungs removed aseptically and homogenized. Homogenates were diluted and plated onto agar plates, and log10 weighted mean number of colony forming units/lung determined by counting. BASB125 vaccine and kwc preparations induced significant lung clearance of M. catarrhalis versus controls. No experimental data is given.

MECHANISM OF ACTION - Vaccine; gene therapy.

USE - The **polypeptide,** immunogenic fragments of the **polypeptide,** fusion **proteins** of the **polypeptide,** or polynucleotides encoding the **polypeptide** are used in **vaccine** compositions (claimed), optionally with another **M. catarrhalis antigen** (claimed). They can also be included in medicaments for use in generating an immune response in an animal (claimed). The **vaccines** and medicaments are useful in preventing and/or treating microbial diseases, especially diseases associated with M. catarrhalis infection in mammals (especially humans). The **polypeptides**/polynucleotides may be used to produce **antibodies,** which can be used in compositions useful therapeutically to treat humans with M. catarrhalis diseases (claimed). M. catarrhalis is a Gram-negative bacteria frequently isolated from the human upper respiratory tract and responsible for several pathologies in humans e.g. otitis media in children, pneumonia, sinusitis etc. The **polypeptides,** polynucleotides and **antibodies** are also useful diagnostically e.g. in the detection of the **polypeptides/ antibodies** in a biological sample from an animal to diagnose

M. catarrhalis infection (claimed). The diagnostic assays are useful e.g. to detect diseases, determine the stage and type of infection, determine the effect of drugs etc. The **polypeptides** and polynucleotides can also be used to detect antagonists and agonists useful e.g. in preventing, inhibiting and/or treating disease. The polynucleotides are also useful in producing hybridization probes to isolate sequences encoding BASB125 and similar sequences.
Dwg.0/0

L7 ANSWER 16 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-182955 [18] WPIDS
DOC. NO. NON-CPI: N2001-130566
DOC. NO. CPI: C2001-054636
TITLE: New BASB126 **polypeptides** of Moraxella catarrhalis useful for diagnostic, prophylactic and therapeutic purposes against microbial diseases, preferably bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009329	A1	20010208	(200118)*	EN	86

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000068316	A	20010219	(200129)		
EP 1204750	A1	20020515	(200239)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL RO SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009329	A1	WO 2000-EP7280	20000727
AU 2000068316	A	AU 2000-68316	20000727
EP 1204750	A1	EP 2000-956332	20000727
		WO 2000-EP7280	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068316	A	Based on	WO 200109329
EP 1204750	A1	Based on	WO 200109329

PRIORITY APPLN. INFO: GB 1999-18038 19990730
AN 2001-182955 [18] WPIDS
AB WO 200109329 A UPAB: 20010402

NOVELTY - An isolated BASB126 **polypeptide** (I) of Moraxella catarrhalis, comprises a sequence having at least 85% identity (over the entire length) to one of the two 192 amino acids sequences given in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment (II) of (I), where (II) has the same immunogenicity of (I);

(2) an isolated polynucleotide (III) encoding (I) (II);

(3) an expression vector (IV) or a recombinant live microorganism, comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of (V) expressing (I);

(5) producing (I) comprising culturing (V) and recovering the **polypeptide** from the culture medium;

(6) expressing (III) comprising transforming (V) with (IV) and culturing under conditions sufficient for its expression;

(7) a vaccine (VI) comprising (I), (II) or (III);

(8) an **antibody** (VII) immunospecific for (I) or (II);

(9) diagnosing Moraxella catarrhalis infection comprising identifying (I) or (VII) in a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition (VIII) for treating Moraxella catarrhalis infection comprising at least one (VII).

ACTIVITY - Antibacterial; antimicrobial; auditory; antiinflammatory.

MECHANISM OF ACTION - Vaccine.

Experimental protocols are described but no results are given.

USE - (VI) is useful for preparing a medicament for use in generating immune response in an animal (claimed). (VIII) is useful for treating humans with Moraxella catarrhalis disease (claimed).

(I) and (III) are useful in the prevention, treatment and diagnosis of microbial diseases, preferably bacterial infections such as otitis media, pneumonia, sinusitis, nosocomial infections, and invasive diseases. (I) and (III) are useful as immunogens to produce **antibodies**, and to asses the binding of small molecule substrate and ligands in, for e.g., cells, cell-free preparations, chemical libraries and natural product mixtures. (I), (III) and (VII) are useful to configured screening methods for detecting the effect of added compounds and production of mRNA and/or **polypeptides** in the cells.

(III) is useful as a hybridization probe for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB126 and to isolate cDNA and genomic clones of other genes that have a high identity particularly high sequence identity, to the BASB126 gene. (II) has utility in diagnosis of the stage and type of infection, and also for therapeutic or prophylactic purposes, in particular genetic immunization. (II) is useful as a component of polynucleotide arrays, preferably high density arrays or grid.

Dwg.0/4

L7 ANSWER 17 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159854 [16] WPIDS
DOC. NO. CPI: C2001-047606
TITLE: New BASB114 **polypeptides** and polynucleotides from Moraxella catarrhalis strain ATCC 43617, useful as therapeutic agents or vaccines against bacterial infections e.g. otitis

media or pneumonia.
DERWENT CLASS: B04 D16
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009179	A1	20010208	(200116)*	EN	82
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000068322	A	20010219	(200129)		
EP 1204678	A1	20020515	(200239)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL RO SI					
CN 1367790	A	20020904	(200281)		
JP 2003506027	W	20030218	(200315)		81

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009179	A1	WO 2000-EP7293	20000727
AU 2000068322	A	AU 2000-68322	20000727
EP 1204678	A1	EP 2000-956338	20000727
		WO 2000-EP7293	20000727
CN 1367790	A	CN 2000-811120	20000727
JP 2003506027	W	WO 2000-EP7293	20000727
		JP 2001-513985	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068322	A	Based on	WO 200109179
EP 1204678	A1	Based on	WO 200109179
JP 2003506027	W	Based on	WO 200109179

PRIORITY APPLN. INFO: GB 1999-17977 19990730
AN 2001-159854 [16] WPIDS
AB WO 200109179 A UPAB: 20010323
NOVELTY - An isolated BASB114 Moraxella catarrhalis strain American Type Culture Collection No. 43617 **polypeptide** (I) comprising one of two fully defined sequences of 169 amino acids (S1/S2) as given in the specification or an amino acid sequence at least 85% identical to S1/S2, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) an immunogenic fragment of (I) in which the immunogenic activity is substantially the same as (I);
(2) an isolated polynucleotide (II) comprising:
(a) a (sequence at least 85% identical to a) nucleotide

sequence encoding (I);

(b) a (sequence at least 85% identical to a) fully defined nucleotide sequence of 510 (S3) or 507 (S4) base pairs (bp) as given in the specification;

(c) complements of (a) or (b); or

(d) a nucleotide sequence obtainable by screening an appropriate library under stringent conditions with a labeled probe containing (fragments of) S3 or S4;

(3) an expression vector or a recombinant live microorganism (III) comprising (II);

(4) a host cell (IV) comprising (III) or a subcellular fraction or membrane of (IV) expressing (I);

(5) producing (I) comprising culturing (IV) and recovering the produced **polypeptide**;

(6) expressing (II) comprising transforming a host cell with (III) and culturing the host cell;

(7) vaccine compositions comprising (I) or (II);

(8) an **antibody** (V) immunospecific for (I) or its immunological fragment; and

(9) diagnosing a M. catarrhalis infection comprising identifying (I) or (V) present within a biological sample from an animal suspected of having such an infection.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized either with the **polypeptide** (BASB114) adsorbed onto AlPO4 (undefined) (10 micro g BASB114 onto 100 micro g of AlPO4), with a killed whole cells (kwc) preparation of M. catarrhalis strain ATCC 43617 adsorbed onto AlPO4, or with 100 micro g AlPO4 without antigen. The mice were challenged with 5 multiply 10 to the power of 5 cell forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log 10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge were calculated for each group. Sham immunized mice had 5.4 (+/-0.2) log 10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.6 log difference). BASB114 vaccine induced a 1.45 log difference in lung clearance, which was significantly different from the control.

USE - The composition comprising an immunologic amount of (I) or (II) is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (claimed). (I) may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. (II) are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderly patients, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. (I) or (II) may also be employed as research reagents and materials for discovering treatments of and diagnostics for human diseases. In particular, (I) or (II) are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.

Dwg.0/4

L7 ANSWER 18 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-112459 [12] WPIDS
DOC. NO. NON-CPI: N2001-082527
DOC. NO. CPI: C2001-033488
TITLE: Novel BASB110 **polypeptides** of Moraxella catarrhalis, useful as a vaccine for treating Moraxella catarrhalis infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001000838	A1	20010104	(200112)*	EN	88
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000059779	A	20010131	(200124)		
EP 1196589	A1	20020417	(200233)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001000838	A1	WO 2000-EP5854	20000623
AU 2000059779	A	AU 2000-59779	20000623
EP 1196589	A1	EP 2000-945812	20000623
		WO 2000-EP5854	20000623

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000059779	A	Based on	WO 200100838
EP 1196589	A1	Based on	WO 200100838

PRIORITY APPLN. INFO: GB 1999-15031 19990625
AN 2001-112459 [12] WPIDS
AB WO 200100838 A UPAB: 20010302
NOVELTY - Isolated BASB110 **polypeptides** (I) of Moraxella catarrhalis, are new. The BASB110 **polypeptide** has the 322 (P1) or another 322 (P2) amino acid sequence defined in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (Ia) comprising an amino acid sequence which is at least 85%, preferably 95%, most preferably 100%, identical to the sequence, over its entire length, of P1 or P2;

(2) an immunogenic fragment (Ib) of (I) or (Ia), where the

activity of the fragment is substantially the same as P1 or P2;

(3) an isolated polynucleotide (II) encoding (I), (Ia) or (Ib);

(4) an isolated polynucleotide (IIa) comprising a sequence encoding (Ia) or its complementary sequence;

(5) an isolated polynucleotide (IIb) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identity to a sequence encoding P1 or P2 over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(6) an isolated polynucleotide (IIc) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identical to the 969 (N1) or 966 (N2) nucleotides fully defined in the specification, or its complement;

(7) an isolated polynucleotide (IId) comprising a sequence encoding P1 or P2, obtainable by screening an appropriate library under stringent hybridization conditions with labeled probe having the sequence of N1 or N2;

(8) an expression vector (III) of a recombinant live microorganism, comprising (II), (IIa), (IIb), (IIc) or (IId);

(9) a host cell (IV) comprising (III), or a subcellular fraction or membrane of (IV) expressing (Ia);

(10) a process for producing (I), (Ia) or (Ib) comprising culturing (IV);

(11) a process for expressing (II), (IIa), (IIb), (IIc) or (IId), comprising transforming (IV) with (III) and culturing transformed (IV) under conditions sufficient for its expression;

(12) a vaccine composition (V) comprising (I), (Ia) or (Ib), or (II), (IIa), (IIb), (IIc) or (IId);

(13) an **antibody** (Ab1) immunospecific for (I), (Ia) or (Ib); and

(14) a method for diagnosing Moraxella catarrhalis infection, by identifying (I)-(Ib) or Ab1 present within a biological sample from an animal suspected of having such an infection.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

Groups of mice are immunized with BASB110 vaccine. After the booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log 10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log 10 weighted mean number of CFU/lung and the standard deviations were calculated for each group. Results were not given in the specification.

USE - The vaccine is useful for preparing a medicament for use in generating immune response in an animal (claimed). Ab1 is useful for treating humans suffering from Moraxella catarrhalis disease (claimed).

Polynucleotides encoding the BASB110 **polypeptides** have utility in diagnosis of the stage and type of infection, and also for therapeutic or prophylactic purposes, in particular genetic immunization.

Dwg.0/3

L7 ANSWER 19 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-112458 [12] WPIDS
DOC. NO. NON-CPI: N2001-082526

DOC. NO. CPI: C2001-033487
TITLE: New BASB113 **polypeptide** isolated from Moraxella catarrhalis bacterium, useful for diagnosing and producing vaccines against bacterial infections such as otitis media and pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001000836	A1	20010104	(200112)*	EN	86

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000059778	A	20010131	(200124)		
EP 1196588	A1	20020417	(200233)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001000836	A1	WO 2000-EP5851	20000623
AU 2000059778	A	AU 2000-59778	20000623
EP 1196588	A1	EP 2000-945811	20000623
		WO 2000-EP5851	20000623

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000059778	A	Based on	WO 200100836
EP 1196588	A1	Based on	WO 200100836

PRIORITY APPLN. INFO: GB 1999-15044 19990625
AN 2001-112458 [12] WPIDS
AB WO 200100836 A UPAB: 20010302
NOVELTY - An isolated **polypeptide** (I) comprising an amino acid sequence which has 85% identity to the Moraxella catarrhalis BASB113 **polypeptide** sequence of 224 (S2) or 224 (S4) amino acids respectively as given in the specification, or has a sequence of (S2) or (S4), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment (II) of (I) which has the same immunogenic activity as (I);

(2) an isolated polynucleotide (III), or its complementary nucleotide sequence comprising a nucleotide sequence:

(i) encoding a **polypeptide** that has 85% identity over the entire length of (S2) or (S4);

(ii) that has 85% identity over the entire length of the nucleotide sequence encoding region which encodes (S2) or (S4);

(iii) which has 85% identity over the entire length of a fully defined nucleotide sequence of 675 (S1) or 672 (S3) base pairs as given in the specification; and

(iv) comprising a nucleotide sequencing encoding (I) obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe with the sequence of (S1) or (S3);

(3) an expression vector (IV), or a recombinant live microorganism comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of the host cell expressing (I);

(5) production of (I) comprising culturing (V) and recovering the produced **polypeptide**;

(6) expressing (III) involves transforming (V) with (IV) which contains any one of the polynucleotides given above and culturing (V) under suitable conditions to express the polynucleotides;

(7) a vaccine composition which comprises (I) or (II);

(8) a vaccine composition which comprises (III);

(9) an **antibody** (Ab) immunospecific for (I) or (II); and

(10) therapeutic compositions comprising an **antibody** directed against (I) useful in treating humans with Moraxella catarrhalis.

ACTIVITY - Anti-inflammatory; auditory; antibacterial.

MECHANISM OF ACTION - Gene therapy; vaccine. Details of test are given but no results are stated.

USE - (I), (II) and (III) are useful for preparing a medicament useful for generating an immune response in an animal. (I) is also useful as diagnostic reagent for Moraxella catarrhalis which involves identifying (I) or an **antibody** against (I) present within the biological sample from an animal suspected of having such an infection (claimed). The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB113 and to isolate cDNA and genomic clones of other genes that have high sequence identity to BASB113 gene. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (S1) or (S3) is used as PCR (polymerase chain reaction) primers. The polynucleotide sequences can be used in the discovery and development of antibacterial compounds. The encoded **protein** can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Dalgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to mammalian, host thus preventing the sequelae of infection. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with Moraxella catarrhalis to identify **protein** groups able to provoke a prophylactic or therapeutic immune response. The vaccine comprising (I), (II) or (III) is useful for treating Moraxella catarrhalis infections such

as sinusitis, nosocomial infections, otitis media and pneumonia. (II) is also used for therapeutic or prophylactic purposes especially genetic immunization.
Dwg.0/3

L7 ANSWER 20 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-112457 [12] WPIDS
DOC. NO. NON-CPI: N2001-082525
DOC. NO. CPI: C2001-033486
TITLE: Novel BASB112 **polypeptides** of Moraxella catarrhalis, useful as a vaccine for treating Moraxella catarrhalis infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001000835	A1	20010104	(200112)*	EN	81

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000061519	A	20010131	(200124)	
EP 1196591	A1	20020417	(200233)	EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001000835	A1	WO 2000-EP5849	20000623
AU 2000061519	A	AU 2000-61519	20000623
EP 1196591	A1	EP 2000-947873	20000623
		WO 2000-EP5849	20000623

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000061519	A	Based on	WO 200100835
EP 1196591	A1	Based on	WO 200100835

PRIORITY APPLN. INFO: GB 1999-14870 19990625
AN 2001-112457 [12] WPIDS
AB WO 200100835 A UPAB: 20010302
NOVELTY - Isolated BASB112 **polypeptides** (I) of Moraxella catarrhalis, are new. The BASB112 **polypeptide** has the 122 (P1) or another 122 (P2) amino acid sequence defined in the specification.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (Ia) comprising an amino acid sequence which is at least 85%, preferably 95%, most preferably 100%, identical to the sequence, over its entire length, of P1 or P2;

(2) an immunogenic fragment (Ib) of (I) or (Ia), where the activity of the fragment is substantially the same as P1 or P2;

(3) an isolated polynucleotide (II) encoding (I), (Ia) or (Ib);

(4) an isolated polynucleotide (IIa) comprising a sequence encoding (Ia) or its complementary sequence

(5) an isolated polynucleotide (IIb) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identity to a sequence encoding P1 or P2 over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(6) an isolated polynucleotide (IIc) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identical to the 369 (N1) or 366 (N2) nucleotides fully defined in the specification, or its complement;

(7) an isolated polynucleotide (IId) comprising a sequence encoding P1 or P2, obtainable by screening an appropriate library under stringent hybridization conditions with labeled probe having the sequence of N1 or N2;

(8) an expression vector (III) of a recombinant live microorganism, comprising (II), (IIa), (IIb), (IIc) or (IId);

(9) a host cell (IV) comprising (III), or a subcellular fraction or membrane of (IV) expressing (Ia);

(10) a process for producing (I), (Ia) or (Ib) comprising culturing (IV)

(11) a process for expressing (II), (IIa), (IIb), (IIc) or (IId), comprising transforming (IV) with (III) and culturing transformed (IV) under conditions sufficient for its expression;

(12) a vaccine composition (V) comprising (I), (Ia) or (Ib), or (II), (IIa), (IIb), (IIc) or (IId);

(13) an **antibody** (Ab1) immunospecific for (I), (Ia) or (Ib); and

(14) a method for diagnosing Moraxella catarrhalis infection, by identifying (I)-(Ib) or Ab1 present within a biological sample from an animal suspected of having such an infection.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

Groups of mice are immunized with BASB112 vaccine. After the booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log 10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log 10 weighted mean number of CFU/lung and the standard deviations were calculated for each group. Results were not given in the specification.

USE - The vaccine is useful for preparing a medicament for use in generating immune response in an animal (claimed). Ab1 is useful for treating humans suffering from Moraxella catarrhalis disease (claimed).

Polynucleotides encoding the BASB112 **polypeptides** have utility in diagnosis of the stage and type of infection, and also for therapeutic or prophylactic purposes, in particular genetic immunization.

Dwg.0/3

L7 ANSWER 21 OF 41 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
ACCESSION NUMBER: 2002:201461 BIOSIS
DOCUMENT NUMBER: PREV200200201461
TITLE: Intranasal immunization with detoxified lipooligosaccharides from Moraxella catarrhalis conjugated to a **protein** elicit protection in a mouse model of colonization.
AUTHOR(S): Jiao, X. (1); Hirano, T. (1); Hou, Y. (1); Gu, X. (1)
CORPORATE SOURCE: (1) Laboratory of Immunology, National Institute on Deafness and Other Communication Disorders, National Institutes of Health, Rockville, MD USA
SOURCE: Abstracts of the General Meeting of the American Society for Microbiology, (2001) Vol. 101, pp. 302. http://www.asmusa.org/mtgsrc/generalmeeting.htm. print.
Meeting Info.: 101st General Meeting of the American Society for Microbiology Orlando, FL, USA May 20-24, 2001
ISSN: 1060-2011.
DOCUMENT TYPE: Conference
LANGUAGE: English
AB Moraxella catarrhalis is a significant cause of otitis media in children. Lipooligosaccharide (LOS) is a major surface **antigen** of **M. catarrhalis** and a potential **vaccine** candidate. But little is known about the mucosal immune responses of detoxified LOS (dLOS)-**protein** conjugate **vaccines** and their potential roles on mucosal surfaces. In order to address these issues, BALB/c mice were immunized intranasally with a mixture of dLOS-CRM (the diphtheria toxin cross-reactive mutant **protein**) and cholera toxin (CT) as an adjuvant, dLOS plus CT, or CT only. After immunization, the animals were aerosolly challenged with M. catarrhalis strain 25238. Immunization with dLOS-CRM generated a significant increase in secreting IgA and IgG in nasal washes, bronchoalveolar lavage and saliva, and serum IgG, IgM and IgA against LOS of M. catarrhalis as detected by an enzyme-linked immunosorbent assay (ELISA). The dLOS-CRM elicited LOS-specific IgA, IgG, and IgM **antibody**-forming cells (AFCs) in different lymphoid tissues as measured by an enzyme-linked immunospot (ELISPOT) assay. LOS-specific IgA AFCs were found in the nasal passages, spleens, nasal-associated lymphoid tissues (NALT), cervical lymph nodes (CLN), lungs, and small intestines. LOS-specific IgG and IgM AFCs were only detected in the spleens, CLN, and nasal passages. Furthermore, the dLOS-CRM **vaccine** generated an 80% bacterial clearance in the nasopharynx and lungs when compared to the controls ($P<0.01$) following an aerosol challenge with the homologous strain 25238. Intriguingly, intranasal immunization with dLOS-CRM containing CT showed a higher level of bacterial clearance in both sites when compared to subcutaneous injections with dLOS-CRM plus a Ribi adjuvant. These data indicate that dLOS-CRM induces specific mucosal and systemic immunity against M. catarrhalis through intranasal immunization, and provides effective bacterial clearance in the mouse nasopharynx and lungs. Therefore, this may be an efficient route for **vaccines** to prevent otitis media and lower respiratory tract infections caused by M. catarrhalis.

L7 ANSWER 22 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-025166 [03] WPIDS
DOC. NO. NON-CPI: N2001-019583
DOC. NO. CPI: C2001-007779
TITLE: New BASB103-108 **polypeptides** isolated from Moraxella catarrhalis bacterium, useful for diagnosing and producing vaccines against bacterial infections such as otitis media and pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000071724	A2	20001130	(200103)*	EN	79
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000045673	A	20001212	(200115)		
EP 1185658	A2	20020313	(200225)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000071724	A2	WO 2000-EP4618	20000518
AU 2000045673	A	AU 2000-45673	20000518
EP 1185658	A2	EP 2000-927226	20000518
		WO 2000-EP4618	20000518

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000045673	A Based on	WO 200071724
EP 1185658	A2 Based on	WO 200071724

PRIORITY APPLN. INFO: GB 1999-13354 19990608; GB 1999-12038 19990524; GB 1999-12040 19990524; GB 1999-12674 19990601; GB 1999-12705 19990601; GB 1999-12838 19990602

AN 2001-025166 [03] WPIDS
AB WO 200071724 A UPAB: 20010116
NOVELTY - An isolated **polypeptide** (I) comprising an amino acid sequence which is at least 85% identical to the Moraxella catarrhalis BASB103-BASB108 **polypeptides** fully defined sequence of 252 (S2), 650 (S4), 405 (S6), 410 (S8), 818 (S10) or 913 (S12) amino acids as given in the specification, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment (II) of (I) which has the same immunogenic activity as (I);

(2) an isolated polynucleotide (III), or its complementary nucleotide sequence comprising a nucleotide sequence:

(a) encoding (I);

(b) that is 85% identical over the entire sequence which encodes (S2), (S4), (S6), (S8), (S10) or (S12);

(c) that is 85% identical to a fully defined nucleotide sequence of 759 (S1), 1953 (S3), 1218 (S5), 1233 (S7), 2457 (S9) or 2742 (S11) base pairs as given in the specification; and

(d) comprising a nucleotide sequencing encoding (I) obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (S1), (S3), (S5), (S7), (S9) or (S11);

(3) an expression vector (IV) or a recombinant live microorganism comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of the host cell expressing (I);

(5) preparation of (I);

(6) expressing (III) involves transforming (V) with (IV) and culturing (V) under suitable conditions to express the polynucleotides;

(7) a vaccine composition which comprises (I), (II) or (III);

(8) an **antibody** (Ab) immunospecific for (I) or (II); and

(9) therapeutic compositions comprising an Ab directed against (I).

ACTIVITY - Anti-inflammatory; auditory. No supporting data given.

MECHANISM OF ACTION - Gene therapy; vaccine.

USE - The therapeutic composition comprising (I), an immunogenic fragment (II) of (I) or a polynucleotide (III) encoding (I) is useful for the preparation of a medicament for generating an immune response in an animal. (I) is also useful as a diagnostic reagent for Moraxella catarrhalis which involves identifying (I) or an **antibody** against (I) present within the biological sample from an animal suspected of having such an infection (claimed). The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB103-108 and to isolate cDNA and genomic clones of other genes that have high sequence identity to BASB103-108 gene. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (S1), (S3), (S5), (S7), (S9) or (S11) are used as polymerase chain reaction (PCR) primers. The polynucleotide sequences can be used in the discovery and development of antibacterial compounds. The encoded **protein** can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Dalgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to mammalian host thus preventing the sequelae of infection. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are

used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with M.catarrhalis to identify **protein** groups able to provoke a prophylactic or therapeutic immune response. The vaccine comprising (I), (II) or (III) is useful for treating Moraxella catarrhalis infections such as sinusitis, nosocomial infections, otitis media and pneumonia. (II) is also used for therapeutic or prophylactic purposes especially genetic immunization.
Dwg.0/0

L7 ANSWER 23 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-587296 [55] WPIDS
DOC. NO. CPI: C2000-175126
TITLE: New BASB081 **polypeptides** from Moraxella catarrhalis and polynucleotides encoding the **polypeptides** used for treating infections, or as a vaccine for preventing infections, especially those caused by M. catarrhalis.
DERWENT CLASS: B04 D16
INVENTOR(S): RUELLE, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 91
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000052042	A1	20000908	(200055)*	EN	97

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000029136	A	20000921	(200065)		
EP 1163265	A1	20011219	(200206)	EN	

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000052042	A1	WO 2000-EP1468	20000223
AU 2000029136	A	AU 2000-29136	20000223
EP 1163265	A1	EP 2000-907603	20000223
		WO 2000-EP1468	20000223

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000029136	A	Based on	WO 200052042
EP 1163265	A1	Based on	WO 200052042

PRIORITY APPLN. INFO: GB 1999-4559 19990226
AN 2000-587296 [55] WPIDS
AB WO 200052042 A UPAB: 20001102
NOVELTY - New isolated BASB081 **polypeptides** comprising a sequence of 919 amino acids (Ia), 889 amino acids (Ib), both given

in the specification, or a sequence with 85 % identity (Ic) to (Ia) or (Ib), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of the new **polypeptide** in which the immunogenic activity of the fragment is substantially the same as (Ia) or (Ib);

(2) polynucleotides with DNA sequences comprising 2760 bp (IIa), 2670 bp (IIb), or a sequence with at least 85 % identity to (Ia) or (IIb) that encode (Ia) - (Ic), respectively;

(3) an expression vector or a recombinant live microorganism comprising the isolated polynucleotides;

(4) a host cell comprising the expression vector, a subcellular fraction or a membrane of the host cell expressing the isolated **polypeptide** comprising an amino acid sequence having at least 85 % identity to (Ia) or (Ib);

(5) producing the **polypeptides** comprising culturing the host cell for the production of the **polypeptide**, and recovering the **polypeptide** from the culture medium;

(6) expressing the polynucleotides comprising transforming a host cell with the expression vector, and culturing the host cell for expression of any one of the polynucleotides;

(7) vaccine compositions comprising any of the **polypeptides** or any of the polynucleotides;

(8) an **antibody** immunospecific for the **polypeptide** or the immunological fragment;

(9) diagnosing a Moraxella catarrhalis infection, by identifying any of the **polypeptides**, or an **antibody** that is immunospecific for the **polypeptide**, present within a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition for treating humans with M. catarrhalis disease comprising an **antibody** directed against any of the **polypeptides**.

ACTIVITY - Anti-bacterial; immunostimulant; antiinflammatory. No biological data is given.

MECHANISM OF ACTION - Vaccine. No biological data is given.

USE - Compositions comprising any of the **polypeptides** or polynucleotides encoding them are useful in preparing a medicament for generating an immune response in an animal (claimed). The BASB081 polynucleotides and **polypeptides** are useful in preventing or treating bacterial infections, e.g. otitis media in infants and children, pneumonia in elderlies, sinusitis, nosocomial infections, chronic otitis media, auditive nerve damage, upper respiratory tract infection, or inflammation of the middle ear. The BASB081 polynucleotides and **polypeptides** are also useful as diagnostic reagents for diagnosing infections caused by bacteria, especially M. catarrhalis.

Dwg.0/3

L7 ANSWER 24 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-271440 [23] WPIDS
DOC. NO. NON-CPI: N2000-203227
DOC. NO. CPI: C2000-082932
TITLE: Novel BASB034 polynucleotides and **polypeptides** from Moraxella catarrhalis used to prepare vaccines against bacterial infections.

DERWENT CLASS: B04 D16 S03
INVENTOR(S): RUELLE, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 90
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000015802	A1	20000323	(200023)*	EN	106
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9958632	A	20000403	(200034)		
NO 2001001263	A	20010430	(200134)		
BR 9914492	A	20010626	(200140)		
EP 1114160	A1	20010711	(200140)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
CZ 2001000927	A3	20010815	(200157)		
KR 2001085794	A	20010907	(200218)		
HU 2001003945	A2	20020228	(200223)		
CN 1326509	A	20011212	(200225)		
JP 2002525057	W	20020813	(200267)		120
AU 752667	B	20020926	(200268)		
NZ 510512	A	20021025	(200274)		
MX 2001002671	A1	20011101	(200279)		
ZA 2001002108	A	20021224	(200309)		121

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000015802	A1	WO 1999-EP6781	19990914
AU 9958632	A	AU 1999-58632	19990914
NO 2001001263	A	WO 1999-EP6781	19990914
		NO 2001-1263	20010313
BR 9914492	A	BR 1999-14492	19990914
		WO 1999-EP6781	19990914
EP 1114160	A1	EP 1999-946171	19990914
		WO 1999-EP6781	19990914
CZ 2001000927	A3	WO 1999-EP6781	19990914
		CZ 2001-927	19990914
KR 2001085794	A	KR 2001-703287	20010314
HU 2001003945	A2	WO 1999-EP6781	19990914
		HU 2001-3945	19990914
CN 1326509	A	CN 1999-813243	19990914
JP 2002525057	W	WO 1999-EP6781	19990914
		JP 2000-570329	19990914
AU 752667	B	AU 1999-58632	19990914
NZ 510512	A	NZ 1999-510512	19990914
		WO 1999-EP6781	19990914
MX 2001002671	A1	MX 2001-2671	20010314
ZA 2001002108	A	ZA 2001-2108	20010314

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9958632	A	Based on	WO 200015802
BR 9914492	A	Based on	WO 200015802
EP 1114160	A1	Based on	WO 200015802
CZ 2001000927	A3	Based on	WO 200015802
HU 2001003945	A2	Based on	WO 200015802
JP 2002525057	W	Based on	WO 200015802
AU 752667	B	Previous Publ.	AU 9958632
		Based on	WO 200015802
NZ 510512	A	Based on	WO 200015802

PRIORITY APPLN. INFO: GB 1998-20002 19980914
AN 2000-271440 [23] WPIDS
AB WO 200015802 A UPAB: 20000516
NOVELTY - Isolated BASB034 **polypeptides** from Moraxella catarrhalis are new.

DETAILED DESCRIPTION - An isolated BASB034 **polypeptide** (I) is new, and comprises an amino acid sequence which has at least 85% or 95% identity to, or is, one of the four fully defined 442 amino acid sequences given in the specification ((Ia)-(Id)).

INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment of (I) in which the immunogenic activity is substantially the same as (Ia)-(Id);

(2) an isolated polynucleotide encoding (I), or a complementary nucleotide;

(3) an isolated polynucleotide which has at least 85% identity to a nucleotide encoding (I), or a complementary nucleotide;

(4) an isolated polynucleotide (II) which comprises a sequence which has at least 85% or 95% identity to over the entire length of, or is, one of the four fully defined 1329 base pair (bp) sequences given in the specification, or its complement;

(5) an isolated polynucleotide encoding (Ia)-(Id), obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (II), or its fragment;

(6) an expression vector or recombinant live microorganism comprising (II), or the polynucleotides of (2), (3), and (5);

(7) a host cell comprising the expression vector of (6), or a subcellular fraction of that cell expressing (I);

(8) producing (I), comprising culturing the host cell of (7) under conditions sufficient for the production of the **polypeptide**, and recovering the **polypeptide** from the culture medium;

(9) expressing (II) or the polynucleotides of (2), (3) or (5), comprising transforming a host cell with a vector comprising at least one of these polynucleotides, and culturing the cell under conditions sufficient for expression of the polynucleotide;

(10) a vaccine composition comprising an effective amount of (I), (II) or the polynucleotides of (2), (3) or (5);;

(11) an **antibody** immunospecific for (I), or the fragment of (1);

(12) diagnosing a Moraxella infection, comprising identifying (I), or an **antibody** that is immunospecific for (I), present within a biological sample from an animal suspected of having such an infection;

(13) use of a composition comprising an immunologically

effective amount of (I) or (II) or the polynucleotides of (2), (3) or (5) in the preparation of a medicament for use in generating an immune response in an animal; and

(14) a therapeutic composition useful in treating humans with M. catarrhalis, comprising at least one **antibody** directed against (I) and a pharmaceutically acceptable carrier.

ACTIVITY - None given.

MECHANISM OF ACTION - None given.

USE - The polynucleotides and **polypeptides** may be employed as research reagents and material for the discovery of treatments and diagnostics for diseases, particularly human diseases. They are particularly used to diagnose and treat M. catarrhalis infections (claimed). They can be used for diagnosis of disease, staging of disease, or determining response of an infectious organism to drugs. The polynucleotides may be used as a source for hybridization probes, and for screening of genetic mutations, serotype, organism or strain identification, identification of mutations in BASB034 sequences, and as components of arrays which are useful for diagnostic and prognostic purposes. The **polypeptides** can be used to produce **antibodies** . The **polypeptides** can also be used in vaccine formulations, and to identify agonists and antagonists. The **polypeptides**, **antibodies**, agonists and antagonists (which are bacteriostatic) are used for the treatment and prevention of diseases such as otitis media in infants and children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, and chronic otitis media with hearing loss. The **polypeptides**, agonists and antagonists are also used for screening of antibacterial drugs.

ADVANTAGE - The frequency of Moraxella catarrhalis infections has risen dramatically, and it is no longer common to isolate M. catarrhalis strains that are resistant to standard antibiotics. The BASB034 products of the invention can be used screen for new antibacterial compounds that may target these resistant bacteria.

Dwg.0/6

L7 ANSWER 25 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-206007 [18] WPIDS
DOC. NO. NON-CPI: N2000-153181
DOC. NO. CPI: C2000-063720
TITLE: New isolated Moraxella catarrhalis BASB023 **polypeptides**, useful for developing products for the prevention, treatment and diagnosis of e.g. otitis media, pneumonia, sinusitis or nosocomial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 89
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000009694	A1	20000224	(200018)*	EN	98

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD
SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9954227 A 20000306 (200030)
EP 1105492 A1 20010613 (200134) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK
NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000009694	A1	WO 1999-EP5828	19990811
AU 9954227	A	AU 1999-54227	19990811
EP 1105492	A1	EP 1999-940192	19990811
		WO 1999-EP5828	19990811

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9954227	A	Based on	WO 200009694
EP 1105492	A1	Based on	WO 200009694

PRIORITY APPLN. INFO: GB 1998-17824 19980814
AN 2000-206007 [18] WPIDS
AB WO 200009694 A UPAB: 20000412
NOVELTY - An isolated **polypeptide** comprising an amino acid sequence which has at least 85% identity to an 269 residue amino acid sequence, fully defined in the specification, corresponding to the Moraxella catarrhalis BASB023 **polypeptide**, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (I) having the 269 residue sequence;

(2) an isolated **polypeptide** (II) having a variant 269 residue amino acid sequence, fully defined in the specification;

(3) an immunogenic fragment of (I) or (II) in which the immunogenic activity of the immunogenic fragment is the same as (I);

(4) an isolated PN comprising a nucleotide sequence (NS) encoding a **polypeptide** that has at least 85% identity to (I) over its entire length, or a NS complementary to the isolated PN;

(5) an isolated PN comprising a NS that has at least 85% identity to a NS encoding a (I) over the entire coding region, or a NS complementary to the isolated PN;

(6) an isolated PN (III) which comprises a NS which has at least 85% identity to an 810 nucleotide sequence, fully defined in the specification and corresponding to a Moraxella cattarhalis BASB023 polynucleotide, over its entire length, or a NS complementary to the isolated PN;

(7) an isolated PN comprising a NS encoding (I), obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having a sequence (III) or a fragment;

(8) an isolated PN comprising a variant 810 nucleotide sequence, fully defined in the specification;

(9) an isolated PN comprising a NS encoding a **polypeptide** of sequence (II), obtainable by screening an

appropriate library under stringent hybridization conditions with a labeled probe having a sequence (III) or a fragment;

(10) an expression vector or recombinant live microorganism comprising an isolated PN of (4)-(9);

(11) a host cell comprising an expression vector of (10) or a subcellular fraction or a membrane of the host cell expressing an isolated **polypeptide** comprising an amino acid sequence that has at least 85% identity to an amino acid sequence (I);

(12) a process for producing the novel **polypeptide**, comprising culturing the host cell (11) under expression conditions and recovering the **polypeptide**;

(13) a process for expressing a PN of (4)-(9), comprising transforming a host cell with the expression vector comprising on of the PN and culturing under expression conditions;

(14) a vaccine composition comprising (I), (II), an immunogenic fragment of (I) or (II), or a PN of (4)-(9), and a carrier;

(15) an **antibody** immunospecific for (I), (II)or the immunogenic fragment of (2);

(16) a method of diagnosing a Moraxella infection, comprising identifying (I), (II), the immunogenic fragment of (2) or the **antibody** of (15) in a biological sample form a suspect animal; and

(17) a therapeutic composition for treating Moraxella catarrhalis disease in humans, comprising at least one **antibody** of (15), and a carrier.

ACTIVITY - Antibacterial; Auditory; Antiinflammatory.

MECHANISM OF ACTION - Vaccine. Polyvalent antisera directed against the BASB023 **protein** were generated by vaccinating 2 rabbits with the purified recombinant BASB023 **protein**. Each animal was given a total of 3 immunizations intramuscularly (i.m.) of about 20 mu g BASB023 **protein** per injection (beginning with complete Freund's adjuvant and followed with incomplete Freund's adjuvant) at approx. 21 day intervals. Animals were bled prior to the first immunization and on days 35 and 57. Anti-BASB023 **protein** titers were measured by an enzyme linked immunosorbant assay (ELISA) using purified recombinant BASB023 **protein** (0.5 mu g/well). The titer was defined as the highest dilution at least 0.1 as calculated with the following equation: average OD of 2 test samples of antisera - the average OD of 2 test samples of buffer. The titers after 3 immunizations were above 3000.

USE - The Moraxella catarrhalis can cause diseases such as otitis melia, pneumonia, sinusitis and nosocomial infections. The **polypeptides** and PNs can be used as vaccines (claimed) to protect against infection, particularly Moraxella catarrhalis infections. The **antibodies** can be used for treating humans with Moraxella catarrhalis disease (claimed). The detection of the **polypeptides** or **antibodies** can be used for diagnosing Moraxella infection (claimed). The products can also be used for detection and drug screening.

Dwg.0/6

L7 ANSWER 26 OF 41 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 2001381129 MEDLINE
DOCUMENT NUMBER: 21108937 PubMed ID: 11163472
TITLE: Vaccines for Moraxella catarrhalis.
AUTHOR: McMichael J C
CORPORATE SOURCE: Wyeth-Lederle Vaccines, 211 Bailey Road, West

Henrietta, NY 14586-9728, USA.. mcmichj@war.wyeth.com
SOURCE: VACCINE, (2000 Dec 8) 19 Suppl 1 S101-7. Ref: 53
Journal code: 8406899. ISSN: 0264-410X.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
General Review; (REVIEW)
(REVIEW, TUTORIAL)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200107
ENTRY DATE: Entered STN: 20010709
Last Updated on STN: 20021218
Entered Medline: 20010705

AB **Vaccine** development for **Moraxella catarrhalis** is in the **antigen** identification stage. M. catarrhalis does not appear to synthesize secreted antigens such as exotoxins, nor does it appear to possess a carbohydrate capsule. Modified forms of these antigens are usually good vaccine components. There is some interest in whole bacterial cells and membrane fractions, but the search has largely focused on purified outer surface antigens. All of the present antigens have been selected based on the response seen in animals, although the **antibody** response seen in people exposed to the bacterium provides some guidance. The **antibody** response provides information related to the cross-strain preservation of epitopes and whether they are surface exposed. Antigens that elicit **antibodies** that have complement dependent bactericidal capacity, opsonophagocytic activity or interfere with one of the antigen's known functions such as adhesion or nutrient acquisition are particularly valued. In addition to examining the **antibody** response, some antigens have been evaluated in a murine pulmonary clearance model. Using these assays and model, several vaccine candidates have been identified. The antigens may be roughly classified by the function they serve the bacterium. One set appears to promote adhesion to host tissues and includes the hemagglutinins, ubiquitous surface **protein** A1 (UspA1), and possibly the CD **protein**. A second set is involved in nutrient acquisition. This set includes the lactoferrin binding **protein** A (LbpA) and lactoferrin binding **protein** B (LbpB), the transferrin binding **protein** A (TbpA) and transferrin binding **protein** B (TbpB), the CD and E porins, and the Catarrhalis outer membrane **protein** B (CopB). A third set is comprised of antigens involved in virulence and it includes lipooligosaccharide (LOS) and the ubiquitous surface **protein** A2 (UspA2). Antigens of unknown function, such as the 200K **protein**, may also be vaccine candidates. The antigens that are most suitable will be determined in clinical studies that are only beginning now.

L7 ANSWER 27 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-062302 [05] WPIDS
DOC. NO. NON-CPI: N2000-048800
DOC. NO. CPI: C2000-017246
TITLE: Novel **peptides** useful for diagnosis, prophylaxis and treatment of Moraxella infections such as otitis media, pneumonia, sinusitis etc..
DERWENT CLASS: B04 D16 S03
INVENTOR(S): RUELLE, J

PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9958685	A2	19991118	(200005)*	EN	87

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

AU 9942602	A	19991129	(200018)	
EP 1078066	A2	20010228	(200113)	EN

R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9958685	A2	WO 1999-EP3263	19990510
AU 9942602	A	AU 1999-42602	19990510
EP 1078066	A2	EP 1999-950354	19990510
		WO 1999-EP3263	19990510

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9942602	A	Based on	WO 9958685
EP 1078066	A2	Based on	WO 9958685

PRIORITY APPLN. INFO: GB 1999-9175 19990421; GB 1998-10379 19980513

AN 2000-062302 [05] WPIDS

AB WO 9958685 A UPAB: 20000128

NOVELTY - An isolated **polypeptide** with the Moraxella catarrhalis BASB028 **polypeptide** (I) sequence of 1726 amino acids fully defined in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (II), comprising an amino acid sequence which has 85% identity to the amino acid sequence of (I);

(2) an immunogenic fragment (III), of (I) or (II) which has the same immunogenic activity as (I);

(3) an isolated polynucleotide (IV), comprising a nucleotide sequence encoding (I);

(4) an isolated polynucleotide (V), or its complementary nucleotide sequence comprising a nucleotide sequence:

(a) encoding a **polypeptide** that has 85% identity over the entire length of (I);

(b) that has 85% identity over the entire length of the nucleotide sequence coding region which encodes (I); and

(c) which has 85% identity over the entire length of a fully defined nucleotide sequence of 5181 base pairs (1) as given in the specification;

(5) an expression vector (VI), or a recombinant live microorganism comprising (IV) or (V);

(6) a host cell (VII), or a membrane comprising (VI) which expresses (II);

(7) preparation of (I), comprising culturing host cells of (6) to produce the **polypeptide**, and recovering it from the culture medium;

(8) expression of (IV) or (V) which comprises transforming (VII) with (VI) which contains any one of the polynucleotides given above and culturing (VII) under suitable conditions to express the polynucleotides;

(9) a vaccine composition which comprises (I) or (II);

(10) a vaccine composition which comprises (IV) or (V);

(11) an **antibody** (Ab) immunospecific for (I), (II) or (III); and

(12) diagnosing a Moraxella infection by identifying (I),(II), (III) or an Ab produced against them, present in a biological sample obtained from an animal suspected of having such infection.

ACTIVITY - Anti-inflammatory; auditory. No supporting data given.

MECHANISM OF ACTION - Vaccine The efficacy of BASB028 vaccine was analyzed by enhancement of lung clearance of M.catarrhalis in mice. Groups of 6 BALB/c mice were immunized subcutaneously with 100 mu l of vaccine corresponding to a 10 mu l dose and were boosted 2 weeks later. One week after the booster, the mice were challenged by instillation of 50 mu l of bacterial suspension into the left nostril under anesthesia and 0.8 mg ketamine. Mice were killed 4 hours after challenge and the lungs are removed aseptically an homogenized individually. The log 10 weighted mean number of CFU/lung is determined by counting the colonies grown on Mueller-Hinton agar plates after plating of 20 mu l of 5 serial dilutions of the homogenate. No results of the test were given.

USE - The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB028 and to isolate cDNA and genomic clones of other genes that have high sequence identity to BASB028 gene. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (1) are used for PCR to determine whether or not the identified polynucleotides are transcribed in bacteria in infective tissue and so are helpful in the diagnosis of the stage and type of infection, the pathogen has attained. Probes comprising BASB028 nucleotide sequence can be constructed to conduct efficient screening of genetic mutations, serotype, taxonomic classification or identification. Primers with 1-4 nucleotides removed from the 5' and/or 3' end are used for amplifying BASB028 DNA and/or RNA isolated from a sample derived from an individual. The polynucleotides are used as components of high density polynucleotide arrays or grids which are useful for diagnostic and prognostic purposes. The **antibodies** directed against (I) or (IV) are employed to isolate or to identify clones expressing (I) or (IV) or to purify them. The polynucleotide sequences can be used in the discovery and development of antibacterial compounds. The encoded **protein**, for expression can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Delgarno or other translation

facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to the mammalian host. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with M.catarrhalis to identify **protein** epitopes able to provoke a prophylactic or therapeutic immune response. The therapeutic composition comprising an immunologically effective amounts of a **polypeptide**, (I) or (II); or a polynucleotide, (IV) or (V) is useful in the preparation of a medicament for generating an immune response in an animal. A therapeutic composition comprising an Ab directed against one or two useful for treating humans with M.catarrhalis diseases (claimed) such as sinusitis, otitis media and nosocomial infections.
Dwg.0/1

L7 ANSWER 28 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-062301 [05] WPIDS
DOC. NO. NON-CPI: N2000-048799
DOC. NO. CPI: C2000-017245
TITLE: Novel **peptides** useful as vaccines for Moraxella infections such as otitis media, pneumonia, sinusitis etc.,.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THOHNARD, J; THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9958684	A2	19991118	(200005)*	EN	113
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9941421	A	19991129	(200018)		
EP 1078064	A2	20010228	(200113)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE SI					
NO 2000005697	A	20010110	(200115)		
CZ 2000004203	A3	20010516	(200132)		
AU 737196	B	20010809	(200152)		
KR 2001043573	A	20010525	(200168)		
CN 1309706	A	20010822	(200175)		
HU 2001002853	A2	20011128	(200209)		
ZA 2000006522	A	20020130	(200217)		131
BR 9911773	A	20020305	(200225)		
MX 2000011140	A1	20010501	(200227)		
JP 2002514425	W	20020521	(200236)		114
NZ 508322	A	20021220	(200309)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9958684	A2	WO 1999-EP3257	19990507
AU 9941421	A	AU 1999-41421	19990507
EP 1078064	A2	EP 1999-924948	19990507
		WO 1999-EP3257	19990507
NO 2000005697	A	WO 1999-EP3257	19990507
		NO 2000-5697	20001110
CZ 2000004203	A3	WO 1999-EP3257	19990507
		CZ 2000-4203	19990507
AU 737196	B	AU 1999-41421	19990507
KR 2001043573	A	KR 2000-712705	20001113
CN 1309706	A	CN 1999-808554	19990507
HU 2001002853	A2	WO 1999-EP3257	19990507
		HU 2001-2853	19990507
ZA 2000006522	A	ZA 2000-6522	20001110
BR 9911773	A	BR 1999-11773	19990507
		WO 1999-EP3257	19990507
MX 2000011140	A1	MX 2000-11140	20001113
JP 2002514425	W	WO 1999-EP3257	19990507
		JP 2000-548475	19990507
NZ 508322	A	NZ 1999-508322	19990507
		WO 1999-EP3257	19990507

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9941421	A	Based on	WO 9958684
EP 1078064	A2	Based on	WO 9958684
CZ 2000004203	A3	Based on	WO 9958684
AU 737196	B	Previous Publ.	AU 9941421
		Based on	WO 9958684
HU 2001002853	A2	Based on	WO 9958684
BR 9911773	A	Based on	WO 9958684
JP 2002514425	W	Based on	WO 9958684
NZ 508322	A	Based on	WO 9958684

PRIORITY APPLN. INFO: GB 1998-10285 19980513
AN 2000-062301 [05] WPIDS
AB WO 9958684 A UPAB: 20000128
NOVELTY - An isolated **polypeptide** with Moraxella catarrhalis BASB020 **polypeptide** (I),(II),(III),(IV) sequence of 280 amino acids (aa) as given in the specification, from M.catarrhalis strains MC2931, MC2912, MC2913 and MC2969, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (V), comprising an aa sequence which has 85% identity to the aa sequence of (I),(II),(III) or (IV);

(2) an immunogenic fragment (VI), of (I),(II),(III),(IV) or (V) which has the same immunogenic activity as (I),(II),(III) or (IV);

(3) an isolated polynucleotide (VII), comprising a nucleotide sequence encoding (I),(II),(III) or (IV);

(4) an isolated polynucleotide (VII), or its complementary nucleotide sequence comprising a nucleotide sequence:

(a) encoding a **polypeptide** that has 85% identity over the entire length of (I),(II),(III) or (IV);

(b) that has 85% identity over the entire length of the nucleotide sequence coding region which encodes (I),(II),(III) or (IV); and

(c) which has 85% identity over the entire length of a fully defined nucleotide sequence of 843 base pairs (1,2,3,4) as given in the specification;

(5) an expression vector (IX), or a recombinant live microorganism comprising (VII) or (VIII);

(6) a host cell (X), or a membrane comprising (IX) which expresses (V);

(7) preparation of (I),(II),(III) or (IV);

(8) expression of (VII) or (VIII) which comprises transforming (X) with (IX) which contains any one of the polynucleotides given above and culturing (X) under suitable conditions to express the polynucleotides;

(9) a vaccine composition which comprises (I),(II),(III) or (IV) or (V);

(10) a vaccine composition which comprises (VII) or (VIII);

(11) an **antibody** (Ab) immunospecific for (I),(II),(III), (IV), (V) or (VI); and

(12) diagnosing a Moraxella infection by identifying (I),(II),(III), (IV),(V) or (VI) or an Ab produced against them, present in a biological sample obtained from an animal suspected of having such infection.

ACTIVITY - Anti-inflammatory; auditory.

MECHANISM OF ACTION - Vaccine. The efficacy of BASB020 vaccine was analyzed by enhancement of lung clearance of M.catarrhalis in mice. Groups of 6 BALB/c mice were immunized subcutaneously with 100 mu l of vaccine corresponding to a 10 mu l dose and were boosted 2 weeks later. One week after the booster, the mice were challenged by instillation of 50 mu l of bacterial suspension into the left nostril under anesthesia and 0.8 mg ketamine. Mice were killed 4 hours after challenge and the lungs are removed aseptically a homogenized individually. The log 10 weighted mean number of CFU/lung is determined by counting the colonies grown on Mueller-Hinton agar plates after plating of 20 mu l of 5 serial dilutions of the homogenate. BASB020 vaccine induced significant lung clearance as compared to the control (0.62 log difference).

USE - The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB020 and to isolate cDNA and genomic clones of other genes that have high sequence identity to BASB020 gene. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (1,2,3,4) are used for PCR to determine whether or not the identified polynucleotides are transcribed in bacteria in infective tissue and so are helpful in the diagnosis of the stage and type of infection, the pathogen has attained. Probes comprising BASB020 nucleotide sequence can be constructed to conduct efficient screening of genetic mutations, serotype, taxonomic classification or identification. Primers with 1-4 nucleotides removed from the 5' and/or 3' end are used for amplifying BASB020 DNA and/or RNA isolated from a sample derived from an individual. The polynucleotides are used as components of high density polynucleotide arrays or grids which are useful for diagnostic and

prognostic purposes. The **antibodies** directed against (I),(II),(III),(IV) or (VII) are employed to isolate or to identify clones expressing (I),(II),(III),(IV) or (VII) or to purify them. The polynucleotide sequences can be used in the discovery and development of antibacterial compounds. The encoded **protein**, for expression can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Delgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to the mammalian host. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with M.catarrhalis to identify **protein** epitopes able to provoke a prophylactic or therapeutic immune response. The therapeutic composition comprising an immunologically effective amounts of a **polypeptide**, (I),(II),(III),(IV) or (V); or a polynucleotide, (VII) or (VIII) is useful in the preparation of a medicament for generating an immune response in an animal. A therapeutic composition comprising an Ab directed against one or two useful for treating humans with M.catarrhalis diseases (claimed) such as sinusitis, otitis media and nosocomial infections.
Dwg.0/8

L7 ANSWER 29 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-039107 [03] WPIDS
DOC. NO. NON-CPI: N2000-029453
DOC. NO. CPI: C2000-010168
TITLE: Novel BASB010 polynucleotides and **polypeptides** from Moraxella catarrhalis used to prepare vaccines against bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THONNARD, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9958682	A2	19991118	(200003)*	EN	100
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9942600	A	19991129	(200018)		
EP 1078065	A2	20010228	(200113)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 9958682	A2	WO 1999-EP3254	19990507
AU 9942600	A	AU 1999-42600	19990507
EP 1078065	A2	EP 1999-950353	19990507
		WO 1999-EP3254	19990507

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9942600	A	Based on	WO 9958682
EP 1078065	A2	Based on	WO 9958682

PRIORITY APPLN. INFO: GB 1999-5308 19990308; GB 1998-10195 19980512

AN 2000-039107 [03] WPIDS

AB WO 9958682 A UPAB: 20000118

NOVELTY - Novel BASB010 polynucleotides and **polypeptides** from Moraxella catarrhalis are disclosed.

DETAILED DESCRIPTION - An isolated BASB010 **polypeptide** (I) is new, and comprises an amino acid sequence which has at least 85% or 95% identity to, or is, the 391 (Ia), 391 (Ib) or 391 (Ic) amino acid sequences given in the specification.

INDEPENDENT CLAIMS are also included for the following:

(1) An immunogenic fragment of (I) in which the immunogenic activity is substantially the same as (Ia), (Ib) or (Ic);

(2) An isolated polynucleotide encoding (I), or a complementary nucleotide;

(3) An isolated polynucleotide (II) which comprises a sequence which has at least 85% or 95% identity to over the entire length, or is, the 1176 bp (IIa), 1176 bp (IIb) or 1176 bp (IIc) sequence given in the specification, or its complement;

(4) An isolated polynucleotide encoding (Ia)-(Ic), obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (IIa), (IIb), (IIc) or a fragment thereof;

(5) An expression vector or recombinant live microorganism comprising (II), or the polynucleotides of (2) or (4);

(6) A host cell comprising the expression vector of (5), or a subcellular fraction of that cell expressing (I);

(7) A process for producing (I), comprising culturing a host cell under conditions sufficient for the production of the **polypeptide**, and recovering the **polypeptide** from the culture medium;

(8) A process for expressing (II) or the polynucleotides of (2) or (4), comprising transforming a host cell with a vector comprising at least one of these polynucleotides, and culturing the cell under conditions sufficient for expression of the polynucleotide;

(9) A vaccine composition comprising an effective amount of (I) and a pharmaceutically acceptable carrier;

(10) A vaccine composition comprising an effective amount of (II) or the polynucleotides of (2) or (4), and a pharmaceutically acceptable carrier;

(11) An **antibody** immunospecific for (I), or the fragment of (1);

(12) A method for diagnosing a M. catarrhalis infection, comprising identifying (I), or an **antibody** that is immunospecific for (I), present within a biological sample from an

animal suspected of having such an infection;

(13) Use of a composition comprising an immunologically effective amount of (I) or (II) or the polynucleotides of (2) or (4) in the preparation of a medicament for use in generating an immune response in an animal; and

(14) A therapeutic composition useful in treating humans with M. catarrhalis, comprising at least one **antibody** directed against (I) and a pharmaceutically acceptable carrier.

ACTIVITY - Anti-bacterial, immunostimulant.

MECHANISM OF ACTION - Vaccine.

USE - The polynucleotides and **polypeptides** may be employed as research reagents and material for the discovery of treatments and diagnostics for diseases, particularly human diseases. They can be used for diagnosis of disease, staging of disease, or determining response of an infectious organism to drugs. The polynucleotides may be used as a source for hybridization probes, and for screening of genetic mutations, serotype, organism or strain identification, identification of mutations in BASB013 sequences, and as components of arrays which are useful for diagnostic and prognostic purposes. The **polypeptides** can be used to produce **antibodies**. The **polypeptides** can also be used in vaccine formulations, and to identify agonists and antagonists. The **polypeptides**, **antibodies**, agonists and antagonists (which are bacteristatic) are used for the treatment and prevention of diseases such as otitis media in infants and children, pneumonia in the elderly, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in middle ear, auditive nerve damage, delayed speech learning, infection of the upper respiratory tract and inflammation of the middle ear. They are particularly used to diagnose and treat M. catarrhalis infections. The **polypeptides**, agonists and antagonists are also used for screening of antibacterial drugs.

ADVANTAGE - The frequency of Moraxella catarrhalis infections has risen dramatically, and it is no longer common to isolate M. catarrhalis strains that are resistant to standard antibiotics. The BASB010 products of the invention can be used screen for new antibacterial compounds that may target these resistant bacteria.

Dwg.0/4

L7 ANSWER 30 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-116286 [10] WPIDS
DOC. NO. NON-CPI: N2000-088100
DOC. NO. CPI: C2000-035435
TITLE: Novel **antigens** of **Branhamella catarrhalis** used for diagnosis, detection and in **vaccines**.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): CRIPPS, A W; KYD, J
PATENT ASSIGNEE(S): (CORT-N) CORTECS UK LTD; (CORT-N) CORTECS OM LTD; (PROV-N) PROVALIS UK LTD; (CORT-N) CORTECS OM PTY LTD
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9958563	A2	19991118	(200010)*	EN	32

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC
MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG
SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW

AU 9938383 A 19991129 (200018)
EP 1077999 A2 20010228 (200113) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
NO 2000005670 A 20010110 (200115)
CN 1306542 A 20010801 (200172)
KR 2001071236 A 20010728 (200208)
JP 2002514657 W 20020521 (200236) 37
ZA 2000006489 A 20021030 (200282) 59

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9958563	A2	WO 1999-GB1473	19990511
AU 9938383	A	AU 1999-38383	19990511
EP 1077999	A2	EP 1999-921008	19990511
		WO 1999-GB1473	19990511
NO 2000005670	A	WO 1999-GB1473	19990511
		NO 2000-5670	20001110
CN 1306542	A	CN 1999-807588	19990511
KR 2001071236	A	KR 2000-712608	20001110
JP 2002514657	W	WO 1999-GB1473	19990511
		JP 2000-548365	19990511
ZA 2000006489	A	ZA 2000-6489	20001109

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9938383	A	Based on	WO 9958563
EP 1077999	A2	Based on	WO 9958563
JP 2002514657	W	Based on	WO 9958563

PRIORITY APPLN. INFO: GB 1998-10084 19980511
AN 2000-116286 [10] WPIDS
AB WO 9958563 A UPAB: 20000228
NOVELTY - Novel Branhamella catarrhalis antigens are disclosed.
DETAILED DESCRIPTION - A **protein** (I) which is a B. catarrhalis antigen, and which has an apparent molecular weight of about 14-71 kDa (as determined by SDS- PAGE), is new.
INDEPENDENT CLAIMS are also included for the following:
(1) A homolog or derivative of (I).
(2) One or more antigenic fragments of (I).
(3) A nucleic acid (II) molecule comprising:
(a) a DNA sequence coding for (I), or its RNA equivalent;
(b) a sequence complementary to (a);
(c) a sequence which has substantial identity with (a) or (b);
(d) a sequence which codes for a homolog, derivative or fragment of (I).
(4) A vector comprising (II).
(5) A host cell transformed or transfected with the vector of (4).

(6) An immunogenic composition which is especially a vaccine, comprising (I), or the **proteins** of (1) or (2).

(7) The use of (I) or the **proteins** of (1) or (2) in the preparation of an immunogenic composition.

(8) An antigen composition, comprising (I) and/or the **proteins** of (1) and/or (2), optionally together with at least one other B, catarrhalis antigen, or fragment thereof.

(9) An **antibody** raised against (I) or the **proteins** of (1) or (2).

(10) A method for detecting and/or diagnosing B. catarrhalis, comprising bringing into contact the **antibody** of (9), (I), the **proteins** of (1) or (2), or the antigen composition of (8) with a sample to be tested, and detecting the presence of (I).

(11) The use of (I), the **proteins** of (1) or (2), or the antigen composition of (8) in detecting and/or diagnosing B. catarrhalis.

(12) A kit for use in detecting and/or diagnosing B. catarrhalis, comprising (I), the **proteins** of (1) or (2), the antigen composition of (8) or the **antibody** of (9).

(13) The use of (I), or the **proteins** of (1) or (2) or the immunogenic composition of (8) in medicine, or for inducing an immune response in a subject.

(14) A method for the treatment or prophylaxis of respiratory infection or otitis media in a subject, comprising administering an effective amount of (I), the **proteins** of (1) or (2) or the immunogenic composition of (8).

USE - The antigens can be used to prepare vaccines and immunogenic compositions for the treatment and prophylaxis of Branhamella catarrhalisinfections, respiratory tract infections, and otitis media (claimed). **Antibodies** against the antigens can be used for diagnosis and purification of the antigens.

ADVANTAGE - A need exists for **antigens** from **Branhamella catarrhalis** to provide better and more effective **vaccines**. This need is met by the antigens of the invention.

Dwg.0/0

L7 ANSWER 31 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-062033 [05] WPIDS
DOC. NO. NON-CPI: N2000-048594
DOC. NO. CPI: C2000-017145
TITLE: New **polypeptides** from Moraxella catarrhalis used to treat the infection by this bacteria.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): RUELLE, J
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9955871	A1	19991104	(200005)*	EN	70

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW

W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9940331 A 19991116 (200015)
EP 1071784 A1 20010131 (200108) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9955871	A1	WO 1999-EP2764	19990420
AU 9940331	A	AU 1999-40331	19990420
EP 1071784	A1	EP 1999-923457	19990420
		WO 1999-EP2764	19990420

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9940331	A	Based on	WO 9955871
EP 1071784	A1	Based on	WO 9955871

PRIORITY APPLN. INFO: GB 1998-8720 19980423
AN 2000-062033 [05] WPIDS
AB WO 9955871 A UPAB: 20000128
NOVELTY - **Polypeptides** from Moraxella catarrhalis, designated BASB011, are new.

DETAILED DESCRIPTION - An isolated **polypeptide** (P1) has an amino acid (aa) sequence having at least 85% identity to one of the sequences fully defined in the specification.

INDEPENDENT CLAIMS are also include for the following:

(1) an immunogenic fragment of P1, where immunogenic activity is substantially the same as P1;

(2) an isolated polynucleotide comprising a sequence encoding P1, or its complement;

(3) an isolated polynucleotide comprising a sequence having at least 85 (preferably at least 95)% identity to a sequence encoding P1 or its complement;

(4) an isolated polynucleotide comprising a nucleotide sequence having at least 85 (preferably at least 95)% identity over its full length to one of the sequences fully defined in the specification;

(5) an expression vector or recombinant live organism comprising one of the above polynucleotides;

(6) a host cell comprising the above expression vector, or a membrane of that host cell expressing P1;

(7) producing P1, comprising culturing the above host cell under production conditions and recovering the **polypeptide** ;

(8) a **vaccine** comprising P1 or one of the above polynucleotides in combination with at least one other **Moraxella catarrhalis antigen;**

(9) diagnosing a Moraxella infection, comprising identifying P1 or an **antibody** specific for P1 in a biological sample from an animal, and

(10) a composition for treating humans with Moraxella disease, comprising at least one **antibody** directed against P1.

USE - The **polypeptide** is used to generate an immune response in an animal (claimed), particularly against a bacterial infection, e.g. a Moraxella catarrhalis infection. M. catarrhalis

is present in 15% of childhood middle ear infections in the US. Molecules of the invention may also be used to prevent adhesion of bacteria to extracellular matrix **proteins** on indwelling devices or in wounds, to block bacterial adhesion between extracellular matrix **proteins** and BASB011 **proteins** that mediate tissue damage, or to block the normal progression of pathogenesis in infections initiated other than by implanting of indwelling devices or by other surgical techniques.

ADVANTAGE - None given

Dwg.0/17

L7 ANSWER 32 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-038242 [03] WPIDS
CROSS REFERENCE: 1993-093726 [11]; 2000-012250 [01]
DOC. NO. CPI: C2000-009691
TITLE: Purified Moraxella catarrhalis outer membrane **proteins** useful for vaccinating against chronic otis media, acute maxillary sinusitis and other bronchopulmonary and lower respiratory tract infections.
DERWENT CLASS: B04 D16
INVENTOR(S): HANSEN, E J; HELMINEN, M E; MACIVER, I
PATENT ASSIGNEE(S): (TEXA) UNIV TEXAS
COUNTRY COUNT: 1
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
US 5993826	A	19991130	(200003)*		50

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
US 5993826	A	CIP of	US 1991-745591	19910815
		CIP of	WO 1992-US6869	19920814
			US 1993-25363	19930302

FILING DETAILS:

PATENT NO	KIND		PATENT NO
US 5993826	A	CIP of	US 5552146

PRIORITY APPLN. INFO: US 1993-25363 19930302; US 1991-745591 19910815; WO 1992-US6869 19920814
AN 2000-038242 [03] WPIDS
CR 1993-093726 [11]; 2000-012250 [01]
AB US 5993826 A UPAB: 20000925
NOVELTY - A purified Moraxella catarrhalis (also called Branhamella catarrhalis and Neisseria catarrhalis) 80 kiloDalton (kD) CopB outer membrane **protein** (I), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:

(i) an antigen composition (II) prepared by:

(1) introducing a recombinant expression vector including a DNA segment encoding (I) into a recombinant host cell;

(2) culturing the host cell under suitable conditions for the

expression of (I); and

(3) collecting the expressed antigen; and

(ii) a method (III) for inducing an **antibody** response to M. catarrhalis 80 kD CopB antigens in an animal, comprising administering (I).

ACTIVITY - Auditory; Respiratory active.

MECHANISM OF ACTION - **Vaccine**, administration of (I) stimulates an immune response against **M. catarrhalis antigens** in a patient.

Groups of mice were immunized with the 8B6 monoclonal **antibody**, specific for the 80 kD outer membrane **protein** of M. catarrhalis. Control mice were immunized with an irrelevant **antibody**, 2H11 which is specific for Haemophilus ducreyi. Doses of 150 micrograms were used 18 hours prior to bacterial challenge. 5 Microliter doses of bacterial suspension, containing M. catarrhalis strain 035E, were inoculated into the lungs of the mice. 6 Hours after inoculation, the mice were sacrificed and the number of bacteria remaining in the lungs was determined. It was found that where the 2H11 **antibody** was used, 97% of the initial bacterial population remained. However, just 38% remained when the 8B6 **antibody** was used.

USE - (I) may be used to vaccinate against M. catarrhalis, a pathogen implicating in causing chronic otis media, acute maxillary sinusitis and other bronchopulmonary and lower respiratory tract infections.

Dwg.0/13

L7 ANSWER 33 OF 41 MEDLINE DUPLICATE 3

ACCESSION NUMBER: 1999386849 MEDLINE
DOCUMENT NUMBER: 99386849 PubMed ID: 10456903
TITLE: Analysis of antigenic structure and human immune response to outer membrane **protein** CD of Moraxella catarrhalis.
AUTHOR: Murphy T F; Kirkham C; DeNardin E; Sethi S
CORPORATE SOURCE: Divisions of Infectious Diseases, School of Medicine and Biomedical Sciences, State University of New York at Buffalo, Buffalo, New York 14215, USA.. murphyt@acsu.buffalo.edu
CONTRACT NUMBER: AI28304 (NIAID)
SOURCE: INFECTION AND IMMUNITY, (1999 Sep) 67 (9) 4578-85. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199910
ENTRY DATE: Entered STN: 19991014
Last Updated on STN: 19991014
Entered Medline: 19991005

AB Moraxella catarrhalis is an important cause of otitis media in children and lower respiratory tract infections in adults with chronic obstructive pulmonary disease (COPD). Outer membrane **protein** CD (OMP CD) is a 45-kDa **protein** which is a potential **vaccine antigen** to prevent infections caused by **M. catarrhalis**. Eight monoclonal **antibodies** were used to study the antigenic structure of the OMP CD molecule by assaying recombinant **peptides** corresponding to the sequence of the **protein**. This

approach identified two surface-exposed epitopes, including one near the amino terminus (amino acids 25 to 44) and one in the central region of the molecule (amino acids 261 to 331). Assays with serum and sputum supernatants of adults with COPD revealed variable levels of **antibodies** to OMP CD among individuals. To determine which portions of the OMP CD molecule were recognized by human **antibodies**, three human serum samples were studied with six recombinant **peptides** which span the sequence of OMP CD. All three sera contained immunoglobulin G **antibodies** which recognized exclusively the **peptide** corresponding to amino acids 203 to 260 by immunoblot assay. Adsorption experiments with whole bacteria established that some of the human **antibodies** are directed at surface-exposed epitopes on OMP CD. We conclude that OMP CD is a highly conserved molecule which contains at least two separate epitopes which are exposed on the bacterial surface. While individual adults with COPD show variability in the immune response to OMP CD, a specific region of the OMP CD molecule (amino acids 203 to 260) is important as a target of the human immune response.

L7 ANSWER 34 OF 41 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 4

ACCESSION NUMBER: 2000:39442 BIOSIS
DOCUMENT NUMBER: PREV200000039442
TITLE: **Antibody** response to outer membrane **proteins** of Moraxella catarrhalis in children with otitis media.
AUTHOR(S): Mathers, Kate (1); Leinonen, Maija; Goldblatt, David (1)
CORPORATE SOURCE: (1) Immunology Unit, Institute of Child Health, London UK
SOURCE: Pediatric Infectious Disease Journal, (Nov., 1999) Vol. 18, No. 11, pp. 982-988. ISSN: 0891-3668.
DOCUMENT TYPE: Article
LANGUAGE: English
SUMMARY LANGUAGE: English

AB Background: Moraxella catarrhalis is an important cause of bacterial otitis media, and a **vaccine** to prevent this disease would be highly desirable. Analysis of the dominant **antigens** on the surface of **M. catarrhalis** recognized by the human immune response to infection might aid in such a search. Such analysis would be most informative when studied in the eventual target age group for the **vaccine**; thus we have studied the immune response to M. catarrhalis in infants with otitis media. Methods: Eighteen infants (mean age, 9.4 months) experiencing an episode of otitis media caused by M. catarrhalis were studied. Acute and convalescent **antibody** responses were studied by whole cell enzyme-linked immunosorbent assay (heterologous strain) and by immunoblotting of outer membrane **proteins** (OMPs). Results: Specific IgG was detected in 17% of acute serum samples and in 61% of convalescent sera. A rise in specific IgG was detected in 10 of 12 (83%) children 8 months of age or older, compared with 1 of 6 (17%) in younger patients (P = 0.0128). Immunoblotting revealed **antibody** binding to several OMPs with some detectable cross-reactivity. Four dominant OMP targets were identified, corresponding to UspA, TbpB, CopB and a apprx60-kDa **protein** . Conclusions: A combination of antigens might form the most

suitable basis for a M. catarrhalis **vaccine** designed to prevent otitis media in this age group.

L7 ANSWER 35 OF 41 MEDLINE DUPLICATE 5
ACCESSION NUMBER: 1999115543 MEDLINE
DOCUMENT NUMBER: 99115543 PubMed ID: 9916077
TITLE: Use of an isogenic mutant constructed in Moraxella catarrhalis To identify a protective epitope of outer membrane **protein** B1 defined by monoclonal **antibody** 11C6.
AUTHOR: Luke N R; Russo T A; Luther N; Campagnari A A
CORPORATE SOURCE: Department of Microbiology, State University of New York at Buffalo, Buffalo, New York 14214, USA.
SOURCE: INFECTION AND IMMUNITY, (1999 Feb) 67 (2) 681-7. Journal code: 0246127. ISSN: 0019-9567.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF105251
ENTRY MONTH: 199903
ENTRY DATE: Entered STN: 19990324
Last Updated on STN: 19990324
Entered Medline: 19990309

AB Moraxella catarrhalis-induced otitis media continues to be a significant cause of infection in young children, prompting increased efforts at identifying effective vaccine antigens. We have previously demonstrated that M. catarrhalis expresses specific outer membrane **proteins** (OMPs) in response to iron limitation and that this organism can utilize transferrin and lactoferrin for in vitro growth. One of these **proteins**, which binds human transferrin, is OMP B1. As the human host presents a naturally iron-limited environment, **proteins**, like OMP B1, which are expressed in response to this nutritional stress are potential vaccine antigens. In this study, we have developed monoclonal **antibody** (MAb) 11C6, which reacts to a surface-exposed epitope of OMP B1 expressed by M. catarrhalis 7169. This **antibody** was used to clone ompB1, and sequence analysis suggested that OMP B1 is the M. catarrhalis homologue to the transferrin binding **protein** B described for pathogenic Neisseriaceae, Haemophilus influenzae, Actinobacillus pleuropneumoniae, and M. catarrhalis. Expression of recombinant OMP B1 on the surface of Escherichia coli confers transferrin binding activity, confirming that this **protein** is likely involved in iron acquisition. In addition, ompB1 was used to construct an isogenic mutant in M. catarrhalis 7169. This mutant, termed 7169b12, was used as the control in bactericidal assays designed to determine if OMP B1 elicits protective **antibodies**. In the presence of MAb 11C6 and human complement, wild-type 7169 demonstrated a 99% decline in viability, whereas the ompB1 isogenic mutant was resistant to this bactericidal activity. Further analysis with MAb 11C6 revealed the presence of this OMP B1 epitope on 31% of the clinical isolates tested. These data suggest that OMP B1 is a potential **vaccine antigen** against **M. catarrhalis** infections.

L7 ANSWER 36 OF 41 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 1998-377595 [32] WPIDS

DOC. NO. CPI: C1998-114707
TITLE: New **peptide**(s) containing the core epitope of Moraxella catarrhalis Usp **proteins** - useful in, e.g. vaccines to prevent or treat M. catarrhalis infection, and **antibodies** for passive immunisation.
DERWENT CLASS: B04 D16
INVENTOR(S): AEBI, C; COPE, L D; FISKE, M J; FREDENBURG, R; HANSEN, E J; MACIVER, I; FREDENBURG, R A
PATENT ASSIGNEE(S): (TEXA) UNIV TEXAS SYSTEM; (AMCY) AMERICAN CYANAMID CO; (TEXA) UNIV TEXAS
COUNTRY COUNT: 82
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9828333	A2	19980702	(199832)*	EN	236
RW: AT BE CH DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW					
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM GW HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW					
AU 9857201	A	19980717	(199848)		
EP 948625	A2	19991013	(199947)	EN	
R: AL AT BE CH DE DK ES FI FR GB GR IE IT LI LT LU LV MC NL PT RO SE SI					
BR 9714160	A	20000502	(200033)		
CN 1251611	A	20000426	(200036)		
KR 2000057575	A	20000925	(200122)		
JP 2001515467	W	20010918	(200169)		250
US 6310190	B1	20011030	(200172)		
AU 746442	B	20020502	(200238)		
US 2003032772	A1	20030213	(200314)		

APPLICATION DETAILS:

PATENT NO	KIND		APPLICATION	DATE
WO 9828333	A2		WO 1997-US23930	19971219
AU 9857201	A		AU 1998-57201	19971219
EP 948625	A2		EP 1997-953461	19971219
			WO 1997-US23930	19971219
BR 9714160	A		BR 1997-14160	19971219
			WO 1997-US23930	19971219
CN 1251611	A		CN 1997-180843	19971219
KR 2000057575	A		WO 1997-US23930	19971219
			KR 1999-705332	19990615
JP 2001515467	W		WO 1997-US23930	19971219
			JP 1998-529075	19971219
US 6310190	B1	Provisional	US 1996-33598P	19961220
		Cont of	WO 1997-US23930	19971219
			US 1999-336447	19990621
AU 746442	B		AU 1998-57201	19971219
US 2003032772	A1	Provisional	US 1996-33598P	19961220
		Cont of	WO 1997-US23930	19971219
		Div ex	US 1999-336447	19990621
			US 2001-952267	20010912

Searcher : Shears 308-4994

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9857201	A	Based on	WO 9828333
EP 948625	A2	Based on	WO 9828333
BR 9714160	A	Based on	WO 9828333
KR 2000057575	A	Based on	WO 9828333
JP 2001515467	W	Based on	WO 9828333
AU 746442	B	Previous Publ.	AU 9857201
		Based on	WO 9828333
US 2003032772	A1	Div ex	US 6310190

PRIORITY APPLN. INFO: US 1996-33598P 19961220; US 1999-336447 19990621; US 2001-952267 20010912

AN 1998-377595 [32] WPIDS

AB WO 9828333 A UPAB: 19991122

Isolated **peptides** (I) of 7-60 amino acids (aa) that include the sequence AQQQDQH (S1) are new. Also new are: (1) antigenic composition or **vaccine** (A) containing (I) plus buffer or diluent; (2) nucleic acid (II) encoding the UspA1 and A2 **antigens** of **Moraxella catarrhalis** isolates O35E, O46E, TTA24 and TTA37; specific a sequences together with their corresponding coding nucleotide sequences are given in the specification; (3) a method of screening **peptides** for reactivity with an **antibody** (Ab) that binds UspA1 or A2; (4) isolated **peptides** (III) with at least 7 consecutive aa from UspA1 or A2, including residues within the 582-604 or 355-377 aa regions of UspA1 and A2, respectively, of O35E, or analogous regions in other isolates; (5) antigenic construct containing (III) plus buffer or diluent, and (6) antigenic construct containing an isolated 7-60 aa **peptide** that includes at least 7 aa from UspA1 or A2, acting as a carrier covalently coupled to second antigen.

USE - (A) are used to induce an immune response in mammals against M. catarrhalis ((II) can be used similarly in genetic vaccination) and (I) can be used to treat infections by M. catarrhalis (claimed) (e.g. otitis media, sinusitis, lower respiratory tract infections), and also as immunity enhancers for other bacterial, parasitic or viral antigens, to raise Ab and as immunoassay reagents for detecting specific **antibodies**. Ab are useful for passive immunisation and as immunoassay reagents. Detection of the epitopic core sequence (i.e. (S1)), by immunoassay or by PCR, is used to diagnose infection (claimed). (II) are also used to produce recombinant **proteins** and for screening for potential anti-M. catarrhalis agents, while fragments of (II) are useful as diagnostic probes or primers or to isolate variant sequences. (A) are generally administered by subcutaneous or intramuscular injection, but oral or rectal administration is also contemplated. Ab and genetic vaccines are administered by injection, topically and orally.

Dwg.0/16

L7 ANSWER 37 OF 41 MEDLINE DUPLICATE 6

ACCESSION NUMBER: 1998380363 MEDLINE

DOCUMENT NUMBER: 98380363 PubMed ID: 9712766

TITLE: The transferrin binding **protein** B of

Moraxella catarrhalis elicits bactericidal **antibodies** and is a potential vaccine antigen.

AUTHOR: Myers L E; Yang Y P; Du R P; Wang Q; Harkness R E; Schryvers A B; Klein M H; Loosmore S M

CORPORATE SOURCE: Pasteur Merieux Connaught Canada Research, North York, Ontario, Canada M2R 3T4.

SOURCE: INFECTION AND IMMUNITY, (1998 Sep) 66 (9) 4183-92. Journal code: 0246127. ISSN: 0019-9567.

PUB. COUNTRY: United States

DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals

OTHER SOURCE: GENBANK-AF039311; GENBANK-AF039312; GENBANK-AF039313; GENBANK-AF039314; GENBANK-AF039315; GENBANK-AF039316

ENTRY MONTH: 199810

ENTRY DATE: Entered STN: 19981020
Last Updated on STN: 20021218
Entered Medline: 19981002

AB The transferrin binding **protein** genes (tbpA and tbpB) from two strains of Moraxella catarrhalis have been cloned and sequenced. The genomic organization of the M. catarrhalis transferrin binding **protein** genes is unique among known bacteria in that tbpA precedes tbpB and there is a third gene located between them. The deduced sequences of the M. catarrhalis TbpA **proteins** from two strains were 98% identical, while those of the TbpB **proteins** from the same strains were 63% identical and 70% similar. The third gene, tentatively called orf3, encodes a **protein** of approximately 58 kDa that is 98% identical between the two strains. The tbpB genes from four additional strains of M. catarrhalis were cloned and sequenced, and two potential families of TbpB **proteins** were identified based on sequence similarities. Recombinant TbpA (rTbpA), rTbpB, and rORF3 **proteins** were expressed in Escherichia coli and purified. rTbpB was shown to retain its ability to bind human transferrin after transfer to a membrane, but neither rTbpA nor rORF3 did. Monospecific anti-rTbpA and anti-rTbpB **antibodies** were generated and used for immunoblot analysis, which demonstrated that epitopes of M. catarrhalis TbpA and TbpB were antigenically conserved and that there was constitutive expression of the tbp genes. In the absence of an appropriate animal model, anti-rTbpA and anti-rTbpB **antibodies** were tested for their bactericidal activities. The anti-rTbpA antiserum was not bactericidal, but anti-rTbpB antisera were found to kill heterologous strains within the same family. Thus, if bactericidal ability is clinically relevant, a **vaccine** comprising multiple rTbpB **antigens** may protect against **M. catarrhalis** disease.

L7 ANSWER 38 OF 41 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 7

ACCESSION NUMBER: 1997:297080 BIOSIS

DOCUMENT NUMBER: PREV199799596283

TITLE: Moraxella (Branhamella) catarrhalis: Clinical and molecular aspects of a rediscovered pathogen.

AUTHOR(S): Enright, M. C.; McKenzie, H. (1)

CORPORATE SOURCE: (1) Dep. Medical Microbiol., Univ. Aberdeen Medical Sch., Foresterhill, Aberdeen AB25 2ZD UK

SOURCE: Journal of Medical Microbiology, (1997) Vol. 46, No. 5, pp. 360-371.
ISSN: 0022-2615.
DOCUMENT TYPE: General Review
LANGUAGE: English

AB Since its discovery at the end of the nineteenth century, Moraxella (Branhamella) catarrhalis has undergone several changes of nomenclature and periodic changes in its perceived status as either a commensal or a pathogen. Molecular analysis based on DNA hybridization or 16S rDNA sequence comparisons has established its phylogenetic position as a member of the Moraxellaceae and shown that it is related more closely to Acinetobacter spp. than to the genus Neisseria in which it was placed formerly. However, confusion with phenotypically similar Neisseria spp. can occur in the routine diagnostic laboratory if appropriate identification tests are not performed. M. catarrhalis is now accepted as the third commonest pathogen of the respiratory tract after Streptococcus pneumoniae and Haemophilus influenzae. It is a significant cause of otitis media and sinusitis in children and of lower respiratory tract infections in adults, especially those with underlying chest disease. Nosocomial spread of infection, especially within respiratory wards, has been reported. Invasive infection is uncommon, but analysis of reports for England and Wales between 1992 and 1995 revealed 89 cases of M. catarrhalis bacteraemia, with the peak incidence in children aged 1-2 years. Carriage rates of M. catarrhalis are high in children and in the elderly, but its role as a commensal organism has probably been overstated in the past. Approximately 90% of strains are now lactamase positive and, given that the first such strain was reported in 1976, this represents a dramatic increase in frequency over the last 20 years which has not been paralleled in any other species. The BRO-1 and BRO-2 beta-lactamase enzymes of M. catarrhalis are found in other Moraxellaceae, but are not related to beta-lactamases of any other species and their origin is therefore unknown. Molecular and typing studies have shown that the M. catarrhalis species is genetically heterogeneous and these methods have aided epidemiological investigation. Studies of factors that may be related to pathogenicity have shown the existence of three serotypes of lipooligosaccharide and the presence of fimbriae and a possible capsule. Some strains are serum-resistant, probably by virtue of interference with complement action, whilst transferrin- and lactoferrin-binding **proteins** enable the organism to obtain iron from its environment. An **antibody** response in humans to various **M. catarrhalis antigens**, including highly conserved outer-membrane **proteins**, has been demonstrated. Increased understanding of the organism's pathogenic properties and the host response to it may help to identify suitable **vaccine** targets or lead to other strategies to prevent infection. Whilst it remains, at present, the third most important respiratory pathogen, the impact of immunization strategies for other organisms may change this position. The speed with which M. catarrhalis acquired beta-lactamase demonstrates the capacity of this organism to surprise us.

L7 ANSWER 39 OF 41 SCISEARCH COPYRIGHT 2003 THOMSON ISI
ACCESSION NUMBER: 97:911710 SCISEARCH
THE GENUINE ARTICLE: YK218
TITLE: Characterisation of an outer membrane

protein of Moraxella catarrhalis
AUTHOR: Mathers K E; Goldblatt D (Reprint); Aebi C; Yu R H; Schryvers A B; Hansen E J
CORPORATE SOURCE: INST CHILD HLTH, IMMUNOBIOL UNIT, 30 GUILFORD ST, LONDON WC1N 1EH, ENGLAND (Reprint); INST CHILD HLTH, IMMUNOBIOL UNIT, LONDON WC1N 1EH, ENGLAND; UNIV TEXAS, SW MED CTR, DEPT MICROBIOL, DALLAS, TX 75235; UNIV CALGARY, DEPT MICROBIOL & INFECT DIS, CALGARY, AB T2N 4N1, CANADA
COUNTRY OF AUTHOR: ENGLAND; USA; CANADA
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (NOV 1997) Vol. 19, No. 3, pp. 231-236.
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS.
ISSN: 0928-8244.
DOCUMENT TYPE: Article; Journal
FILE SEGMENT: LIFE
LANGUAGE: English
REFERENCE COUNT: 22
ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB To elucidate potential **vaccine antigens**, **Moraxella catarrhalis** outer membrane **proteins** (OMPs) were studied. We have previously shown an OMP to be a target for human IgG and have now further characterised this OMP which appears to have a molecular mass of 84 kDa and to be distinct from the 81-kDa OMP, CopB. Human transferrin was shown to bind the 84-kDa OMP alone. N-terminal sequencing of this OMP and purified M. catarrhalis transferrin binding **protein** B (TbpB) revealed homology both with each other and with the TbpB of Haemophilus influence and Neisseria meningitidis. Adsorption of human anti-serum with purified TbpB from two M. catarrhalis strains abolished or reduced binding of IgG to the 84-kDa OMP from three M. catarrhalis isolates. Ige binding to CopB was unaffected. It is clear that the 84-kDa OMP is distinct from CopB and is a likely homologue of TbpB.

L7 ANSWER 40 OF 41 MEDLINE DUPLICATE 8
ACCESSION NUMBER: 97247713 MEDLINE
DOCUMENT NUMBER: 97247713 PubMed ID: 9093840
TITLE: The major outer membrane **protein**, CD, extracted from Moraxella (**Branhamella**) **catarrhalis** is a potential **vaccine antigen** that induces bactericidal **antibodies**.
AUTHOR: Yang Y P; Myers L E; McGuinness U; Chong P; Kwok Y; Klein M H; Harkness R E
CORPORATE SOURCE: Research Center, Pasteur Merieux Connaught Canada, North York, Ont., Canada.. ypyang@ca.pmc-vacc.com
SOURCE: FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, (1997 Mar) 17 (3) 187-99.
Journal code: 9315554. ISSN: 0928-8244.
PUB. COUNTRY: Netherlands
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 199705
ENTRY DATE: Entered STN: 19970609
Last Updated on STN: 19970609

Entered Medline: 19970529

AB The major outer membrane **protein** of Moraxella (Branhamella) catarrhalis, CD, was detergent-extracted from the bacterial cell wall and purified to homogeneity in high yields by a simple process. The purified **protein** appeared to exhibit immunogenic properties similar to those of native CD exposed on the surface of the bacterium. **Antibodies** to CD raised in mice specifically bound to intact B. catarrhalis, as determined by flow cytometry analysis. The IgG subclass distributions of anti-CD **antibodies** in sera from mice immunized with purified CD or with B. catarrhalis were also similar. CD was found to be antigenically conserved among a panel of B. catarrhalis isolates, as demonstrated by the consistent reactivities of mouse anti-CD antisera with a common 60 kDa **protein** on immunoblots. Furthermore, convalescent sera collected from patients with otitis media due to B. catarrhalis infection were found to be reactive with the CD **protein** by immunoblotting. Finally, the purified **protein** induced **antibodies** in guinea pigs and mice that exhibited in vitro bactericidal activity against the pathogen. Therefore, the native CD outer membrane **protein** represents a potentially useful antigen for inclusion in a vaccine against B. catarrhalis.

L7 ANSWER 41 OF 41 MEDLINE DUPLICATE 9
ACCESSION NUMBER: 93329207 MEDLINE
DOCUMENT NUMBER: 93329207 PubMed ID: 8335988
TITLE: Effect of immunization of pulmonary clearance of Moraxella catarrhalis in an animal model.
AUTHOR: Maciver I; Unhanand M; McCracken G H Jr; Hansen E J
CORPORATE SOURCE: Dept. of Microbiology, University of Texas Southwestern Medical Center, Dallas 75235-9048.
SOURCE: JOURNAL OF INFECTIOUS DISEASES, (1993 Aug) 168 (2) 469-72.
Journal code: 0413675. ISSN: 0022-1899.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Abridged Index Medicus Journals; Priority Journals
ENTRY MONTH: 199308
ENTRY DATE: Entered STN: 19930903
Last Updated on STN: 19970203
Entered Medline: 19930824

AB A murine model for pulmonary clearance of Moraxella catarrhalis was used to determine whether immunization could enhance clearance of this organism from the lungs. Animals actively immunized with outer membrane vesicles of M. catarrhalis cleared an endobronchial challenge with the homologous strain more quickly than did sham-immunized control animals. Western blot analysis of both this immune mouse serum and rabbit antiserum raised against outer membrane vesicles of M. catarrhalis indicated that **antibodies** were present to both outer membrane **protein** and lipooligosaccharide antigens. Passive immunization of mice with the immune rabbit serum resulted in enhanced pulmonary clearance of both homologous and heterologous strains of M. catarrhalis, indicating the involvement of serum **antibody** in this clearance process and the existence of conserved surface antigens in the two different M. catarrhalis strains. These results suggest that this model system may be useful

for the identification of **vaccine** candidates among the surface **antigens** of **M. catarrhalis**.

(FILE 'USPATFULL' ENTERED AT 10:12:54 ON 10 JUL 2003)

L1 1537 SEA FILE=HCAPLUS ABB=ON PLU=ON (MORAXEL? OR M OR BRANHAMELL? OR B)(W)CATARRH?
L2 67 SEA FILE=HCAPLUS ABB=ON PLU=ON L1(5A)ANTIGEN
L3 38 SEA FILE=HCAPLUS ABB=ON PLU=ON L2(S)VACCIN?
L8 22 SEA FILE=USPATFULL ABB=ON PLU=ON L3(L)(POLYPEPTIDE OR PEPTIDE OR POLYPROTEIN OR PROTEIN)
L9 22 SEA FILE=USPATFULL ABB=ON PLU=ON L8(L)(ANTIBOD? OR T(W)(CELL OR LYMPHOCYT?))

L9 ANSWER 1 OF 22 USPATFULL

ACCESSION NUMBER: 2003:89468 USPATFULL
TITLE: Moraxella catarrhalis protein, gene sequence and uses thereof
INVENTOR(S): Tucker, Kenneth, Germantown, MD, United States
Tillmann, Ulrich F., Olney, MD, United States
PATENT ASSIGNEE(S): Antex Biologics Inc., Gaithersburg, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6541616	B1	20030401	
APPLICATION INFO.:	US 1998-164714		19981001	(9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Wilson, Michael C.
LEGAL REPRESENTATIVE: Pennie & Edmonds LLP
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 9 Drawing Figure(s); 9 Drawing Page(s)
LINE COUNT: 2389
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention discloses the Moraxella catarrhalis outer membrane protein polypeptide and polypeptides derived therefrom (collectively "OMP21"), nucleotide sequences encoding said OMP21, and antibodies that specifically bind OMP21. Also disclosed are pharmaceutical compositions including prophylactic or therapeutic compositions, which may be immunogenic compositions including vaccines, comprising OMP21, antibodies thereto or nucleotides encoding same. The invention additionally discloses methods of inducing an immune response to M. catarrhalis and OMP21 in an animal, preferably a human, methods of treating and methods of diagnosing Moraxella infections in an animal, preferably a human, and kits therefor.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 536/023.100
INCLS: 536/023.320; 435/320.100
NCL NCLM: 536/023.100
NCLS: 435/320.100; 536/023.700

L9 ANSWER 2 OF 22 USPATFULL

ACCESSION NUMBER: 2003:45460 USPATFULL
TITLE: UspA1 and UspA2 antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, UNITED STATES

Aebi, Christoph, Gasel, SWITZERLAND
Cope, Leslie D., Mesquite, TX, UNITED STATES
Maciver, Isobel, Cottage Grove, WI, UNITED STATES
Fiske, Michael J., Rochester, NY, UNITED STATES
Fredenburg, Ross A., Rochester, NY, UNITED STATES
PATENT ASSIGNEE(S): The Board of Regents, University of Texas System (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2003032772	A1	20030213
APPLICATION INFO.:	US 2001-952267	A1	20010912 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1999-336447, filed on 21 Jun 1999, GRANTED, Pat. No. US 6310190
Continuation of Ser. No. WO 1997-US23930, filed on 19 Dec 1997, UNKNOWN

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-33598P	19961220 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: Steven L. Highlander, Esq., FULBRIGHT & JAWORSKI L.L.P., Suite 2400, 600 Congress Avenue, Austin, TX, 78701
NUMBER OF CLAIMS: 68
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 18 Drawing Page(s)
LINE COUNT: 7069
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention discloses the existence of two novel proteins UspA1 and UspA2, and their respective genes uspA1 and uspA2. Each protein encompasses a region that is conserved between the two proteins and comprises an epitope that is recognized by the MAb 17C7. One or more than one of these species may aggregate to form the very high molecular weight form (i.e. greater than 200 kDa) of the UspA antigen. Compositions and both diagnostic and therapeutic methods for the treatment and study of M. catarrhalis are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 530/324.000
INCLS: 530/326.000
NCL NCLM: 530/324.000
NCLS: 530/326.000

L9 ANSWER 3 OF 22 USPATFULL
ACCESSION NUMBER: 2002:314723 USPATFULL
TITLE: Moraxella catarrahalis outer membrane protein-106 polypeptide, gene sequence and uses thereof
INVENTOR(S): Tucker, Kenneth, Frederick, MD, UNITED STATES
Plosila, Laura, Cary, NC, UNITED STATES
PATENT ASSIGNEE(S): Antex Biologics Inc. (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002177200	A1	20021128
APPLICATION INFO.:	US 2001-813214	A1	20010320 (9)

RELATED APPLN. INFO.: Division of Ser. No. US 1997-968685, filed on 12 Nov 1997, PATENTED Continuation-in-part of Ser. No. US 1996-642712, filed on 3 May 1996, PENDING
DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: PENNIE & EDMONDS LLP, 1155 Avenue of the Americas, New York, NY, 10036-2711
NUMBER OF CLAIMS: 41
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 14 Drawing Page(s)
LINE COUNT: 2892
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention discloses the Moraxella catarrhalis outer membrane protein-106 (OMP106) polypeptide, polypeptides derived therefrom (OMP106-derived polypeptides), nucleotide sequences encoding said polypeptides, and antibodies that specifically bind the OMP106 polypeptide and/or OMP106-derived polypeptides. Also disclosed are immunogenic, prophylactic or therapeutic compositions, including vaccines, comprising OMP106 polypeptide and/or OMP106-derived polypeptides. The invention additionally discloses methods of inducing immune responses to M. catarrhalis and M. catarrhalis OMP106 polypeptides and OMP106-derived polypeptides in animals.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/183.000
INCLS: 424/190.100; 424/251.100; 530/388.260
NCL NCLM: 435/183.000
NCLS: 424/190.100; 424/251.100; 530/388.260

L9 ANSWER 4 OF 22 USPATFULL
ACCESSION NUMBER: 2002:262061 USPATFULL
TITLE: 74 kilodalton outer membrane protein from moraxella catarrhalis
INVENTOR(S): Chen, Dexiang, Madison, WI, United States
VanDerMeid, Karl R., Rochester, NY, United States
McMichael, John C., Rochester, NY, United States
Barniak, Vicki L., Rochester, NY, United States
PATENT ASSIGNEE(S): American Cyanamid Company, Madison, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6461618	B1	20021008	
	WO 9833814		19980806	
APPLICATION INFO.:	US 1999-355398		19991021	(9)
	WO 1998-US1840		19980129	

	NUMBER	DATE	
PRIORITY INFORMATION:	US 1997-36827P	19970131	(60)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Smith, Lynette R. F.
ASSISTANT EXAMINER: Baskar, Padmavathi
LEGAL REPRESENTATIVE: Brazil, Bill T., Gordon, Alan M., Wyeth
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 9 Drawing Page(s)

LINE COUNT: 1504
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A protein from the M. catarrhalis designated the 74 kD protein is isolated and purified. The 74 kD protein has an amino-terminal amino acid sequence which is conserved among various strains of M. catarrhalis. The protein has a molecular weight of approximately 74,9 kD as measured on a 10% SDS-PAGE gel, while its molecular weight as measured by mass spectrometry is approximately 74 kD. The 74 kD protein is used to prepare a vaccine composition which elicits a protective immune response in a mammalian host to protect the host again disease caused by M. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/200.100; 424/190.100; 424/185.100; 424/184.100; 536/023.100; 536/023.700; 536/024.300; 536/024.320; 435/069.100; 435/069.300; 435/069.700; 435/252.300; 435/320.100; 435/325.000
NCL NCLM: 424/251.100
NCLS: 424/184.100; 424/185.100; 424/190.100; 424/200.100; 435/069.100; 435/069.300; 435/069.700; 435/252.300; 435/320.100; 435/325.000; 536/023.100; 536/023.700; 536/024.300; 536/024.320

L9 ANSWER 5 OF 22 USPATFULL
ACCESSION NUMBER: 2002:217055 USPATFULL
TITLE: Transferrin receptor genes of Moraxella
INVENTOR(S): Myers, Lisa E., Guelph, CANADA
Schryvers, Anthony B., Calgary, CANADA
Harkness, Robin E., Willowdale, CANADA
Loosmore, Sheena M., Aurora, CANADA
Du, Run-Pan, Thornhill, CANADA
Yang, Yan-Ping, Willowdale, CANADA
Klein, Michel H., Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6440701	B1	20020827
APPLICATION INFO.:	US 1998-59584		19980414 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1997-CA163, filed on 7 Mar 1997 Continuation-in-part of Ser. No. US 1997-778570, filed on 3 Jan 1997 Continuation-in-part of Ser. No. US 1996-613009, filed on 8 Mar 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Pak, Michael
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 13
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 172 Drawing Figure(s); 172 Drawing Page(s)
LINE COUNT: 5170
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid molecules are provided which encode transferrin receptor proteins of Moraxella, such as M. catarrhalis or a fragment or an analog of the transferrin receptor

protein. The nucleic acid sequence may be used to produce recombinant transferrin receptor proteins Tbp1 and Tbp2 of the strain of Moraxella free of other proteins of the Moraxella strain for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/069.100; 435/069.300; 435/069.700; 435/071.100; 435/071.200; 435/252.100; 435/252.300; 435/325.000; 536/023.100; 536/023.400; 536/023.700
NCL NCLM: 435/069.300
NCLS: 435/069.100; 435/069.700; 435/071.100; 435/071.200; 435/252.100; 435/252.300; 435/325.000; 536/023.100; 536/023.400; 536/023.700

L9 ANSWER 6 OF 22 USPATFULL
ACCESSION NUMBER: 2002:140865 USPATFULL
TITLE: Vaccines comprising oil bodies
INVENTOR(S): Deckers, Harm M., Alberta, CANADA
Rooijen, Gijs Van, Alberta, CANADA
Boothe, Joseph, Alberta, CANADA
Goll, Janis, Alberta, CANADA
Moloney, Maurice M., Alberta, CANADA
Schryvers, Anthony B., Alberta, CANADA
Alcantara, Joenel, Alberta, CANADA
Hutchins, Wendy A., Alberta, CANADA

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 2002071846	A1	20020613
APPLICATION INFO.:	US 2001-880901	A1	20010615 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 2000-577147, filed on 24 May 2000, PENDING
Continuation-in-part of Ser. No. US 1999-448600, filed on 24 Nov 1999, PATENTED
Continuation-in-part of Ser. No. US 1998-84777, filed on 27 May 1998, PATENTED

	NUMBER	DATE
PRIORITY INFORMATION:	US 1998-75863P	19980225 (60)
	US 1998-75864P	19980225 (60)
	US 1997-47779P	19970528 (60)
	US 1997-47753P	19970527 (60)
	US 2000-212130P	20000616 (60)

DOCUMENT TYPE: Utility
FILE SEGMENT: APPLICATION
LEGAL REPRESENTATIVE: BURNS DOANE SWECKER & MATHIS L L P, POST OFFICE BOX 1404, ALEXANDRIA, VA, 22313-1404
NUMBER OF CLAIMS: 27
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 10 Drawing Page(s)
LINE COUNT: 2348
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention provides novel adjuvants which comprise oil bodies. The invention also provides vaccine formulations

comprising oil bodies and an antigen and methods for preparing the vaccines and the use of the vaccines to elicit an immune response.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/184.100
INCLS: 424/757.000; 424/731.000; 424/750.000; 424/758.000; 424/755.000; 424/764.000; 424/768.000
NCL NCLM: 424/184.100
NCLS: 424/757.000; 424/731.000; 424/750.000; 424/758.000; 424/755.000; 424/764.000; 424/768.000

L9 ANSWER 7 OF 22 USPATFULL
ACCESSION NUMBER: 2002:115794 USPATFULL
TITLE: Multi-component vaccine to protect against disease caused by Haemophilus influenzae and Moraxella catarrhalis
INVENTOR(S): Loosmore, Sheena M., Aurora, CANADA
Yang, Yan-Ping, Willowdale, CANADA
Klein, Michel H., Willowdale, CANADA
Sasaki, Ken, Willowdale, CANADA
PATENT ASSIGNEE(S): Aventis Pasteur Limited, Toronto, CANADA (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6391313	B1	20020521	
APPLICATION INFO.:	US 1999-353617		19990715	(9)

DOCUMENT TYPE: Utility
FILE SEGMENT: GRANTED
PRIMARY EXAMINER: Graser, Jennifer E.
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 22
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 28 Drawing Figure(s); 18 Drawing Page(s)
LINE COUNT: 1437
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A multi-valent immunogenic composition confers protection on an immunized host against infection caused by both Haemophilus influenzae and Moraxella catarrhalis. Such composition comprises at least four antigens comprising at least one antigen from Haemophilus influenzae, and at least one antigen from Moraxella catarrhalis. Three of the antigens are adhesins. High molecular weight (HMW) proteins and Haemophilus influenzae adhesin (Hia) proteins of non-typeable Haemophilus and a 200 kDa outer membrane protein of Moraxella catarrhalis comprise the adhesin components while the other antigen is a non-proteolytic analog of Hin47 protein. Each component does not impair the immunogenicity of the others. The multi-valent immunogenic composition may be combined with DTP component vaccines, which may also include non-virulent poliovirus and PRP-T, to provide a component vaccine without impairment of the immunogenic properties of the other antigens.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/203.100
INCLS: 424/256.100; 424/251.100; 424/234.100; 424/193.100; 424/203.100; 424/197.110; 530/350.000
NCL NCLM: 424/203.100
NCLS: 424/193.100; 424/197.110; 424/234.100; 424/251.100;

424/256.100; 530/350.000

L9 ANSWER 8 OF 22 USPATFULL

ACCESSION NUMBER:	2001:191256 USPATFULL
TITLE:	USPA1 and USPA2 antigens of Moraxella catarrhalis
INVENTOR(S):	Hansen, Eric J., Plano, TX, United States Aebi, Christoph, Gasel, Switzerland Cope, Leslie D., Mesquite, TX, United States Maciver, Isobel, Cottage Grove, WI, United States Fiske, Michael J., Rochester, NY, United States Fredenburg, Ross A., Rochester, NY, United States
PATENT ASSIGNEE(S):	Board of Regents, The University of Texas, Austin, TX, United States (U.S. corporation) American Cyanamid, Madison, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6310190	B1	20011030
APPLICATION INFO.:	US 1999-336447		19990621 (9)
RELATED APPLN. INFO.:	Continuation of Ser. No. WO 1997-US23930, filed on 19 Dec 1997		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1996-33598P	19961220 (60)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Jones, W. Gary
ASSISTANT EXAMINER:	Soudaya, Jehanne
LEGAL REPRESENTATIVE:	Fulbright & Jaworski
NUMBER OF CLAIMS:	2
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	28 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT:	4794

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention discloses the existence of two novel proteins UspA1 and UspA2, and their respective genes uspA1 and uspA2. Each protein encompasses a region that is conserved between the two proteins and comprises an epitope that is recognized by the MAb 17C7. One or more than one of these species may aggregate to form the very high molecular weight form (i.e. greater than 200 kDa) of the UspA antigen. Compositions and both diagnostic and therapeutic methods for the treatment and study of M. catarrhalis are disclosed.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL	INCLM:	536/023.100
	INCLS:	536/023.700
NCL	NCLM:	536/023.100
	NCLS:	536/023.700

L9 ANSWER 9 OF 22 USPATFULL

ACCESSION NUMBER:	2001:157808 USPATFULL
TITLE:	Transferrin receptor protein of Moraxella
INVENTOR(S):	Yang, Yan-Ping, Willowdale, Canada Myers, Lisa E., Guelph, Canada Harkness, Robin E., Willowdale, Canada

	Klein, Michel H., Willowdale, Canada
PATENT ASSIGNEE(S):	Aventis Pasteur Limited, Toronto, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6290970	B1	20010918	
APPLICATION INFO.:	US 1995-540753		19951011	(8)

DOCUMENT TYPE:	Utility
FILE SEGMENT:	GRANTED
PRIMARY EXAMINER:	Minnifield, Nita
LEGAL REPRESENTATIVE:	Sim & McBurney
NUMBER OF CLAIMS:	7
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	12 Drawing Figure(s); 8 Drawing Page(s)
LINE COUNT:	1199

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An isolated and purified non-denatured transferrin receptor protein of a Moraxella strain, particularly M. catarrhalis, has an apparent molecular mass of about 80 to about 90 kDa, as determined by SDS-PAGE. The transferrin receptor protein or a fragment analog thereof is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a strain of Moraxella.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL	INCLM:	424/251.100
	INCLS:	530/350.000; 530/412.000; 424/190.100; 424/250.100; 424/184.100; 424/234.100; 514/002.000
NCL	NCLM:	424/251.100
	NCLS:	424/184.100; 424/190.100; 424/234.100; 424/250.100; 514/002.000; 530/350.000; 530/412.000

L9 ANSWER 10 OF 22 USPATFULL

ACCESSION NUMBER:	2001:52204 USPATFULL
TITLE:	Moraxella catarrhalis outer membrane protein-106 polypeptide, gene sequence and uses thereof
INVENTOR(S):	Tucker, Kenneth, Frederick, MD, United States Plosila, Laura, Cary, NC, United States Tillman, Ulrich F., Olney, MD, United States
PATENT ASSIGNEE(S):	Antex Biologics Inc., Gaithersburg, MD, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6214981	B1	20010410	
APPLICATION INFO.:	US 1997-968685		19971112	(8)

RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1996-642712, filed on 3 May 1996
DOCUMENT TYPE:	Utility
FILE SEGMENT:	Granted
PRIMARY EXAMINER:	Smith, Lynette R. F.
ASSISTANT EXAMINER:	Portner, Ginny Allen
LEGAL REPRESENTATIVE:	Pennie & Edmonds LLP
NUMBER OF CLAIMS:	7
EXEMPLARY CLAIM:	1
NUMBER OF DRAWINGS:	15 Drawing Figure(s); 13 Drawing Page(s)
LINE COUNT:	2357

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention discloses the Moraxella catarrhalis outer membrane protein-106 (OMP106) polypeptide, polypeptides derived therefrom (OMP106-derived polypeptides), nucleotide sequences encoding said polypeptides, and antibodies that specifically bind the OMP106 polypeptide and/or OMP106-derived polypeptides. Also disclosed are immunogenic, prophylactic or therapeutic compositions, including vaccines, comprising OMP106 polypeptide and/or OMP106-derived polypeptides. The invention additionally discloses methods of inducing immune responses to M. catarrhalis and M. catarrhalis OMP106 polypeptides and OMP106-derived polypeptides in animals.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

INCL INCLM: 536/023.100
INCLS: 536/023.700; 424/184.100; 424/190.100; 424/234.100

NCL NCLM: 536/023.100
NCLS: 424/184.100; 424/190.100; 424/234.100; 536/023.700

L9 ANSWER 11 OF 22 USPATFULL

ACCESSION NUMBER: 2001:25435 USPATFULL

TITLE: Transferrin receptor protein of moraxella

INVENTOR(S): Yang, Yan-Ping, Willowdale, Canada
Myers, Lisa E., Guelph, Canada
Harkness, Robin E., Willowdale, Canada
Klein, Michel H., Willowdale, Canada

PATENT ASSIGNEE(S): Connaught Laboratories Limited, Toronto, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6190668	B1	20010220	
	WO 9713785		19970417	
APPLICATION INFO.:	US 1998-51320		19980730	(9)
	WO 1996-CA684		19961011	
			19980730	PCT 371 date
			19980730	PCT 102(e) date

RELATED APPLN. INFO.: Continuation of Ser. No. US 1995-540753, filed on 11 Oct 1995

DOCUMENT TYPE: Utility

FILE SEGMENT: Granted

PRIMARY EXAMINER: Minnifield, Nita

LEGAL REPRESENTATIVE: Sim & McBurney

NUMBER OF CLAIMS: 8

EXEMPLARY CLAIM: 1

NUMBER OF DRAWINGS: 5 Drawing Figure(s); 8 Drawing Page(s)

LINE COUNT: 1221

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An isolated and purified non-denatured transferrin receptor protein of a Moraxella strain, particularly M. catarrhalis, has an apparent molecular mass of about 80 to about 90 kDa, as determined by SDS-PAGE. The transferrin receptor protein or a fragment analog thereof is useful in diagnostic applications and immunogenic compositions, particularly for in vivo administration to a host to confer protection against disease caused by a strain of Moraxella. The transferrin receptor protein is isolated from strains of Moraxella catarrhalis by a procedure including extraction of agent soluble proteins of a cell mass produced by cultivating the strain under iron-starved conditions. The transferrin receptor protein is

selectively solubilized from the extracted cell mass and purified.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 530/387.100; 530/412.000; 530/417.000; 435/007.100; 435/007.800; 435/070.200
NCL NCLM: 424/251.100
NCLS: 435/007.100; 435/007.800; 435/070.200; 530/387.100; 530/412.000; 530/417.000

L9 ANSWER 12 OF 22 USPATFULL
ACCESSION NUMBER: 2001:18617 USPATFULL
TITLE: Lactoferrin receptor genes of Moraxella
INVENTOR(S): Loosmore, Sheena M., Aurora, Canada
Du, Run-Pan, Thornhill, Canada
Wang, Quijun, Thornhill, Canada
Yang, Yan-Ping, Willowdale, Canada
Klein, Michel H., Willowdale, Canada
PATENT ASSIGNEE(S): Connaught Laboratories Limited, Toronto, Canada (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6184371	B1	20010206
APPLICATION INFO.:	US 1998-74658		19980508 (9)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1997-867941, filed on 3 Jun 1997, now patented, Pat. No. US 5977337
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Graser, Jennifer
LEGAL REPRESENTATIVE: Sim & McBurney
NUMBER OF CLAIMS: 5
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 140 Drawing Figure(s); 130 Drawing Page(s)
LINE COUNT: 1824
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Purified and isolated nucleic acid molecules are provided which encode lactoferrin receptor proteins of Moraxella, such as M. catarrhalis, or a fragment or an analog of the lactoferrin receptor protein. The nucleic acid sequence may be used to produce recombinant lactoferrin receptor proteins Lbp1, Lbp2 and ORF3 of the strain of Moraxella free of other proteins of the Moraxella strain for purposes of diagnostics and medical treatment. Furthermore, the nucleic acid molecule may be used in the diagnosis of infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 536/023.700
INCLS: 536/023.100; 536/024.300; 536/024.320; 435/320.100; 435/069.100; 435/069.300; 435/069.700; 435/252.300; 424/200.100; 424/251.100
NCL NCLM: 536/023.700
NCLS: 424/200.100; 424/251.100; 435/069.100; 435/069.300; 435/069.700; 435/252.300; 435/320.100; 536/023.100; 536/024.300; 536/024.320

L9 ANSWER 13 OF 22 USPATFULL

ACCESSION NUMBER: 2000:149751 USPATFULL
TITLE: Compositions for inhibiting dental caries and/or middle ear infections and uses thereof
INVENTOR(S): Aaltonen, Antti Sakari, Marttilantie 2as.6, FIN-03850 Pusula, Finland
Suhonen, Jouko, 663 Garth Ct., Yorktown Heights, NY, United States 10598

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 6143330		20001107	
	WO 9717089		19970515	
APPLICATION INFO.:	US 1998-68393		19980824	(9)
	WO 1996-FI610		19961111	
			19980824	PCT 371 date
			19980824	PCT 102(e) date

	NUMBER	DATE
PRIORITY INFORMATION:	FI 1995-5389	19951109

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Minnifield, Nita
LEGAL REPRESENTATIVE: Evenson, McKeown, Edwards & Lenahan, P.L.L.C.
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 2 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 757
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions for treating or preventing dental caries and/or middle ear infections. These compositions comprise antibodies to dental caries and/or antibodies to bacteria causing middles ear infections and/or an agent preventing the adhesion, accumulation or reporduction of the pathogens of tooth or middle ear. The preferred agent is xylitol. Methods for using these compositions are also included.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/535.000
INCLS: 424/184.100; 424/187.100; 424/282.100; 424/278.100; 424/130.100; 424/435.000; 424/529.000; 424/530.000; 424/531.000; 424/093.300; 604/077.000; 604/076.000
NCL NCLM: 424/535.000
NCLS: 424/093.300; 424/130.100; 424/184.100; 424/187.100; 424/278.100; 424/282.100; 424/435.000; 424/529.000; 424/530.000; 424/531.000; 604/076.000; 604/077.000

L9 ANSWER 14 OF 22 USPATFULL
ACCESSION NUMBER: 1999:166603 USPATFULL
TITLE: Outer membrane protein B1 of Moraxella catarrhalis
INVENTOR(S): Campagnari, Anthony A., Hamburg, NY, United States
PATENT ASSIGNEE(S): The Research Foundation of the State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6004562		19991221
APPLICATION INFO.:	US 1996-698652		19960816 (8)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Ryan, V.
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews, Woods & Goodyear, LLP
NUMBER OF CLAIMS: 10
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 915
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An isolated and purified outer membrane protein B1, and peptides formed therefrom, of Moraxella catarrhalis are described. A method for the isolation and purification of outer membrane protein B1 from a bacterial strain that produces B1 protein, e.g. Moraxella catarrhalis, comprises growing the bacteria in culture in iron-depleted medium to enhance the expression of the B1 protein, harvesting the bacteria from the culture, extracting from the harvested bacteria a preparation substantially comprising an outer membrane protein preparation, contacting the outer membrane preparation with an affinity matrix containing immobilized transferrin wherein B1 protein binds to the transferrin, and eluting the bound B1 protein from the transferrin. Disclosed are the uses of the B1 protein as an immunogen for vaccine formulations, and as antigens in diagnostic immunoassays.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/184.100; 424/234.100
NCL NCLM: 424/251.100
NCLS: 424/184.100; 424/234.100

L9 ANSWER 15 OF 22 USPATFULL
ACCESSION NUMBER: 1999:155210 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Helminen, Meria E., Helsinki, Finland
Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5993826		19991130
APPLICATION INFO.:	US 1993-25363		19930302 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. WO 1992-US6869, filed on 14 Aug 1992 which is a continuation-in-part of Ser. No. US 1991-745591, filed on 21 Aug 1991, now patented, Pat. No. US 5552146
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Sidberry, Hazel F.
LEGAL REPRESENTATIVE: Arnold White & Durkee
NUMBER OF CLAIMS: 11

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 19 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 3037
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to Moraxella catarrhalis outer membrane vesicle (OMV) compositions, to selected antigenic proteins from the outer membranes of M. catarrhalis which have a variety of useful properties, and to monoclonal antibodies against these proteins. Particular "Outer Membrane Proteins" (OMPs) of the invention are characterized as having molecular weights of about 30 kD, 80 kD (also termed CopB protein) and between about 200 and 700 kD (HMWP antigen). Passive immunization with monoclonal antibodies directed against these proteins confers protection against homologous and heterologous Moraxella catarrhalis strains in animal models, and active immunization with outer membrane vesicles also enhances pulmonary clearance of distinct M. catarrhalis strains. This demonstrates both the utility of antibodies in conferring passive immunity and the usefulness of OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and related embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/184.100; 530/350.000; 530/388.100; 530/388.200; 435/069.100; 435/069.300
NCL NCLM: 424/251.100
NCLS: 424/184.100; 435/069.100; 435/069.300; 530/350.000; 530/388.100; 530/388.200

L9 ANSWER 16 OF 22 USPATFULL
ACCESSION NUMBER: 1999:141620 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Helminen, Merja E., Helsinki, Finland
Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5981213		19991109
APPLICATION INFO.:	US 1995-450351		19950525 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1993-25363, filed on 2 Mar 1993 which is a continuation-in-part of Ser. No. WO 1992-US6869, filed on 14 Aug 1992, now patented, Pat. No. WO 819315, issued on 19 Sep 1994 which is a continuation-in-part of Ser. No. US 1991-745591, filed on 21 Aug 1991, now patented, Pat. No. US 5552146
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Shaver, Jennifer
LEGAL REPRESENTATIVE: Arnold, White & Durkee

NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 13 Drawing Figure(s); 17 Drawing Page(s)
LINE COUNT: 3099
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present disclosure relates to Moraxella catarrhalis outer membrane vesicle (OMV) compositions, to selected antigenic proteins from the outer membranes of M. catarrhalis which have a variety of useful properties, and to monoclonal antibodies against these proteins. Particular "Outer Membrane Proteins" (OMPs) of the invention are characterized as having molecular weights of about 30 kD, 80 kD (also termed CopB protein) and between about 200 and 700 kD (HMWP antigen). Passive immunization with monoclonal antibodies directed against these proteins confers protection against homologous and heterologous Moraxella catarrhalis strains in animal models, and active immunization with outer membrane vesicles also enhances pulmonary clearance of distinct M. catarrhalis strains. This demonstrates both the utility of antibodies in conferring passive immunity and the usefulness of OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and related embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.100
INCLS: 435/069.300; 435/252.200; 435/320.100; 536/023.100; 536/023.700; 536/024.320; 424/234.100; 424/251.100
NCL NCLM: 435/069.100
NCLS: 424/234.100; 424/251.100; 435/069.300; 435/252.200; 435/320.100; 536/023.100; 536/023.700; 536/024.320

L9 ANSWER 17 OF 22 USPATFULL
ACCESSION NUMBER: 1999:106092 USPATFULL
TITLE: Vaccine for Moraxella catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
PATENT ASSIGNEE(S): The Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5948412		19990907
APPLICATION INFO.:	US 1997-810655		19970303 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1994-245758, filed on 17 May 1994, now patented, Pat. No. US 5607846
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Degen, Nancy
ASSISTANT EXAMINER: Schwartzman, Robert
LEGAL REPRESENTATIVE: Hodgson, Russ,Andrews Woods & Goodyear, LLP
NUMBER OF CLAIMS: 17
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1552

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising outer membrane protein "E", and peptides and oligopeptides thereof, of Moraxella catarrhalis are described. Additionally, nucleotide sequences encoding the protein, peptide, or oligopeptide are disclosed, as well as recombinant vectors containing these sequences. Protein, peptide, or oligopeptide can be produced from host cell systems containing these recombinant vectors. Peptides and oligopeptides can also be chemically synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens in antigenic formulations for vaccine applications or for generating antisera of diagnostic or therapeutic use; and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertions into attenuated bacteria in constructing a recombinant bacterial vaccine and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding E as primers and/or probes in molecular diagnostic assays for the detection of M. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 530/350.000
NCL NCLM: 424/251.100
NCLS: 530/350.000

L9 ANSWER 18 OF 22 USPATFULL
ACCESSION NUMBER: 1998:61433 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Maciver, Isobel, Dallas, TX, United States
Helminen, Merja, Helsinki, Finland
PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5759813		19980602
APPLICATION INFO.:	US 1994-193150		19940919 (8)

RELATED APPLN. INFO.: Continuation of Ser. No. US 1991-745591, filed on 15 Aug 1991, now patented, Pat. No. US 5552146
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Navarro, Mark
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 15
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 5 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1732
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present disclosure relates to selected antigenic proteins obtained from the outer membranes of Moraxella catarrhalis, that are found to have a variety of useful properties. These proteins, termed OMPs ("Outer Membrane Proteins"), are characterized as having molecular weights of about 30 kD, 80 kD and between about 200 and 700 kD, respectively. Studies set forth herein

demonstrated that monoclonal antibodies directed against these proteins confer a protective effect against infection by Moraxella catarrhalis organisms in animal models, demonstrating the potential usefulness of such antibodies in conferring passive immunity as well as the potential usefulness of these OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/069.100; 435/320.100; 435/325.000; 536/023.100; 536/023.700; 530/350.000; 424/184.100
NCL NCLM: 435/069.300
NCLS: 424/184.100; 435/069.100; 435/320.100; 435/325.000; 530/350.000; 536/023.100; 536/023.700

L9 ANSWER 19 OF 22 USPATFULL
ACCESSION NUMBER: 1998:24926 USPATFULL
TITLE: Vaccine for branhamelia catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
PATENT ASSIGNEE(S): Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5725862		19980310
APPLICATION INFO.:	US 1995-569959		19951208 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1994-306871, filed on 20 Sep 1994, now patented, Pat. No. US 5712118 which is a continuation-in-part of Ser. No. US 1993-129719, filed on 29 Sep 1993, now patented, Pat. No. US 5556755
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Minnifield, N. M.
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews Woods & Goodyear
NUMBER OF CLAIMS: 16
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1877
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising outer membrane protein "CD", and peptides and oligopeptides thereof, of Branhamella catarrhalis are described. Additionally, nucleotide sequences encoding the protein, peptide or oligopeptide are disclosed, as well as recombinant vectors containing these sequences. Protein, peptide or oligopeptide can be produced from host cell systems containing these recombinant vectors. Peptides and oligopeptides can also be chemically synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertion into attenuated bacteria in constructing a recombinant bacterial vaccine, and for inserting into a viral

vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding CD as primers and/or probes in molecular diagnostic assays for the detection of B. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/184.100; 424/234.100; 424/185.100; 530/350.000; 530/300.000; 514/002.000; 435/320.100; 435/240.200; 435/252.300; 435/254.110; 435/069.100; 435/070.100; 435/071.100
NCL NCLM: 424/251.100
NCLS: 424/184.100; 424/185.100; 424/234.100; 435/069.100; 435/070.100; 435/071.100; 435/252.300; 435/254.110; 435/320.100; 514/002.000; 530/300.000; 530/350.000

L9 ANSWER 20 OF 22 USPATFULL
ACCESSION NUMBER: 1998:9349 USPATFULL
TITLE: Vaccine for branhamella catarrhalis
INVENTOR(S): Murphy, Timothy F., East Amherst, NY, United States
PATENT ASSIGNEE(S): Research Foundation of State University of New York, Amherst, NY, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5712118		19980127
APPLICATION INFO.:	US 1994-306871		19940920 (8)

RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-129719, filed on 29 Sep 1993, now patented, Pat. No. US 5556755, issued on 17 Sep 1996
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Hutzell, Paula K.
ASSISTANT EXAMINER: Minnifield, N. M.
LEGAL REPRESENTATIVE: Hodgson, Russ, Andrews, Woods & Goodyear
NUMBER OF CLAIMS: 9
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 6 Drawing Figure(s); 3 Drawing Page(s)
LINE COUNT: 1838
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions comprising outer membrane protein "CD", and peptides and oligopeptides thereof, of Branhamella catarrhalis are described. Additionally, nucleotide sequences encoding the protein, peptide or oligopeptide are disclosed, as well as recombinant vectors containing these sequences. Protein, peptide or oligopeptide can be produced from host cell systems containing these recombinant vectors. Peptides and oligopeptides can also be chemically synthesized. Disclosed are the uses of the protein, peptides and oligopeptides as antigens for vaccine formulations, and as antigens in diagnostic immunoassays. The nucleotide sequences are useful for constructing vectors for use as vaccines for insertion into attenuated bacteria in constructing a recombinant bacterial vaccine, and for inserting into a viral vector in constructing a recombinant viral vaccine. Also described is the use of nucleotide sequences related to the gene encoding CD as primers and/or probes in molecular diagnostic assays for the

detection of B. catarrhalis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 435/320.100; 435/252.100; 435/087.100; 435/091.100; 435/091.400T; 435/235.100; 435/172.300; 536/022.100; 536/023.100; 530/350.000
NCL NCLM: 435/069.300
NCLS: 435/091.100; 435/091.400; 435/235.100; 435/252.100; 435/320.100; 530/350.000; 536/022.100; 536/023.100

L9 ANSWER 21 OF 22 USPATFULL
ACCESSION NUMBER: 97:9925 USPATFULL
TITLE: Methods and compositions relating to useful antigens of moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Helminen, Merja, Dallas, TX, United States
Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S): American Cyanamid Company, Wayne, NJ, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5599693		19970204
APPLICATION INFO.:	US 1995-450002		19950525 (8)

RELATED APPLN. INFO.: Division of Ser. No. US 1991-745591, filed on 15 Aug 1991
DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Housel, James C.
ASSISTANT EXAMINER: Murthy, Prasad
LEGAL REPRESENTATIVE: Arnold White & Durkee
NUMBER OF CLAIMS: 12
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1620
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present disclosure relates to selected antigenic proteins obtained from the outer membranes of Moraxella catarrhalis, that have been found by the inventors to have a variety of useful properties. These proteins, termed OMPs ("Outer Membrane Proteins"), are characterized as having molecular weights of 30, 80 and 100 kD, respectively. Studies set forth herein demonstrate that monoclonal antibodies directed against these proteins confer a protective effect against infection by Moraxella catarrhalis organisms in animal models, demonstrating the potential usefulness of such antibodies in conferring passive immunity as well as the potential usefulness of these OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 435/069.300
INCLS: 424/184.100; 424/251.100; 435/007.200; 435/007.320; 435/071.100; 435/071.200; 435/243.000; 435/252.100; 436/543.000; 530/388.200; 530/388.400; 530/412.000;

530/413.000; 935/106.000; 935/108.000; 935/109.000;
935/110.000
NCL NCLM: 435/069.300
NCLS: 424/184.100; 424/251.100; 435/007.200; 435/007.320;
435/071.100; 435/071.200; 435/243.000; 435/252.100;
436/543.000; 530/388.200; 530/388.400; 530/412.000;
530/413.000

L9 ANSWER 22 OF 22 USPATFULL
ACCESSION NUMBER: 96:80017 USPATFULL
TITLE: Methods and compositions relating to useful antigens of Moraxella catarrhalis
INVENTOR(S): Hansen, Eric J., Plano, TX, United States
Helminen, Merja, Dallas, TX, United States
Maciver, Isobel, Dallas, TX, United States
PATENT ASSIGNEE(S): Board of Regents, The University of Texas System, Austin, TX, United States (U.S. corporation)

	NUMBER	KIND	DATE	
PATENT INFORMATION:	US 5552146		19960903	
APPLICATION INFO.:	US 1991-745591		19910815	(7)

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Sidberry, Hazel F.
LEGAL REPRESENTATIVE: Arnold, White & Durkee
NUMBER OF CLAIMS: 7
EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 3 Drawing Figure(s); 2 Drawing Page(s)
LINE COUNT: 1597
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present disclosure relates to selected antigenic proteins obtained from the outer membranes of Moraxella catarrhalis, that have been found by the inventors to have a variety of useful properties. These proteins, termed OMPs ("Outer Membrane Proteins"), are characterized as having molecular weights of 30, 80 and 100 kD, respectively. Studies set forth herein demonstrate that monoclonal antibodies directed against these proteins confer a protective effect against infection by Moraxella catarrhalis organisms in animal models, demonstrating the potential usefulness of such antibodies in conferring passive immunity as well as the potential usefulness of these OMPs, or variants thereof, in the preparation of vaccines. Also disclosed are DNA segments encoding these OMPs, methods for preparing the antigens, or variants, through the application of recombinant DNA techniques, as well as diagnostic methods and embodiments.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
INCL INCLM: 424/251.100
INCLS: 424/184.100; 530/350.000
NCL NCLM: 424/251.100
NCLS: 424/184.100; 530/350.000

(FILE 'MEDLINE' ENTERED AT 10:16:03 ON 10 JUL 2003)
L10 1093 SEA FILE=MEDLINE ABB=ON PLU=ON "MORAXELLA (BRANHAMELLA) CATARRHALIS"/CT
L11 6149 SEA FILE=MEDLINE ABB=ON PLU=ON VACCINES/CT
L12 30802 SEA FILE=MEDLINE ABB=ON PLU=ON VACCINATION/CT

L13 10 SEA FILE=MEDLINE ABB=ON PLU=ON L10 AND (L11 OR L12)

L10 1093 SEA FILE=MEDLINE ABB=ON PLU=ON "MORAXELLA (BRANHAMELLA) CATARRHALIS"/CT
L14 48506 SEA FILE=MEDLINE ABB=ON PLU=ON ANTIGENS/CT
L15 1 SEA FILE=MEDLINE ABB=ON PLU=ON L10 AND L14

L16 11 L13 OR L15

L16 ANSWER 1 OF 11 MEDLINE
AN 2002272927 MEDLINE
TI A new intra-NALT route elicits mucosal and systemic immunity against Moraxella catarrhalis in a mouse challenge model.
AU Hou Yingchun; Hu Wei Gang; Hirano Takashi; Gu Xin Xing
SO VACCINE, (2002 May 22) 20 (17-18) 2375-81.
Journal code: 8406899. ISSN: 0264-410X.
AB Mucosally administered antigens are often poorly immunogenic due to the difficulty of transporting antigens through the mucosal epithelium. We investigated a new route of intranasal-associated lymphoid tissue (intra-NALT) administration of antigens to circumvent the antigen transportation barrier. A comparative study was carried out on mice administered with killed whole cells of Moraxella catarrhalis strain 25238 plus cholera toxin (CT) by intra-NALT injection and nasal inoculation. Both routes induced significant elevations of several isotype antibodies against strain 25238 in saliva, lung lavage, and serum as measured by an enzyme-linked immunosorbent assay (ELISA). Most of these antibodies were paralleled by the numbers of their corresponding antibody forming cells in mucosal or systemic lymphoid tissues. However, intra-NALT injection elicited higher levels of immunoglobulin (Ig) A and IgG in saliva, IgA and IgG in lung lavage, and IgG and IgM in sera than nasal inoculation (P<or=0.05). In addition, both routes generated significant reductions of bacteria in lungs following an aerosol challenge with strain 25238 in a mouse model of pulmonary clearance. Once again, intra-NALT route showed better bacterial clearance in mouse lungs than nasal inoculation (P<0.01). These results demonstrate that intra-NALT administration of antigens is a convenient and effective route for mucosal immunization that elicits improved mucosal and systemic immunity. This new route can be used as a model to study mucosal antigens or vaccine candidates for antigen activation and interaction with the NALT that is one of major inductive sites for common mucosal immune system.

L16 ANSWER 2 OF 11 MEDLINE
AN 2000428046 MEDLINE
TI Enhancement of clearance of bacteria from murine lungs by immunization with detoxified lipooligosaccharide from Moraxella catarrhalis conjugated to proteins.
AU Hu W G; Chen J; Battey J F; Gu X X
SO INFECTION AND IMMUNITY, (2000 Sep) 68 (9) 4980-5.
Journal code: 0246127. ISSN: 0019-9567.
AB Moraxella catarrhalis strain 25238 detoxified lipooligosaccharide (dLOS)-protein conjugates induced a significant rise of bactericidal anti-LOS antibodies in animals. This study reports the effect of

active or passive immunization with the conjugates or their antiserum on pulmonary clearance of M. catarrhalis in an aerosol challenge mouse model. Mice were injected subcutaneously with dLOS-tetanus toxoid (dLOS-TT), dLOS-high-molecular-weight proteins (dLOS-HMP) from nontypeable Haemophilus influenzae (NTHi), or nonconjugated materials in Ribi adjuvant and then challenged with M. catarrhalis strain 25238 or O35E or NTHi strain 12. Immunization with dLOS-TT or dLOS-HMP generated a significant rise of serum anti-LOS immunoglobulin G and 68% and 35 to 41% reductions of bacteria in lungs compared with the control ($P<0.01$) following challenge with homologous strain 25238 and heterologous strain O35E, respectively. Serum anti-LOS antibody levels correlated with its bactericidal titers against M. catarrhalis and bacterial CFU in lungs. Additionally, immunization with dLOS-HMP generated a 54% reduction of NTHi strain 12 compared with the control ($P<0.01$). Passive immunization with a rabbit antiserum against dLOS-TT conferred a significant reduction of strain 25238 CFU in lungs in a dose- and time-dependent pattern compared with preimmune serum-treated mice. Kinetic examination of lung tissue sections demonstrated that antiserum-treated mice initiated and offset inflammatory responses more rapidly than preimmune serum-treated mice. These data indicate that LOS antibodies (whether active or passive) play a major role in the enhancement of pulmonary clearance of different test strains of M. catarrhalis in mice. In addition, dLOS-HMP is a potential candidate for a bivalent vaccine against M. catarrhalis and NTHi infections.

L16 ANSWER 3 OF 11 MEDLINE
AN 2000398416 MEDLINE
TI Potential of bacterial vaccines in the prevention of acute otitis media.
AU Eskola J; Kilpi T
SO PEDIATRIC INFECTIOUS DISEASE JOURNAL, (2000 May) 19 (5 Suppl) S72-8. Ref: 83
Journal code: 8701858. ISSN: 0891-3668.

L16 ANSWER 4 OF 11 MEDLINE
AN 1999458176 MEDLINE
TI The promise of immunoprophylaxis for prevention of acute otitis media.
AU Pelton S I; Klein J O
SO PEDIATRIC INFECTIOUS DISEASE JOURNAL, (1999 Oct) 18 (10) 926-35. Ref: 92
Journal code: 8701858. ISSN: 0891-3668.

L16 ANSWER 5 OF 11 MEDLINE
AN 1999000946 MEDLINE
TI Otitis media: focus on antimicrobial resistance and new treatment options.
AU Hoppe H L; Johnson C E
SO AMERICAN JOURNAL OF HEALTH-SYSTEM PHARMACY, (1998 Sep 15) 55 (18) 1881-97; quiz 1932-3. Ref: 99
Journal code: 9503023. ISSN: 1079-2082.
AB Antimicrobial resistance among organisms that cause acute otitis media (AOM) and new approaches in the prevention and treatment of AOM are discussed. Organisms commonly responsible for causing AOM include Streptococcus pneumoniae, Haemophilus influenzae, and Moraxella catarrhalis. The evolution of pneumococcal resistance to

penicillins, erythromycin, trimethoprim-sulfamethoxazole, and oral cephalosporins may require treatment with agents such as vancomycin or rifampin in certain patients. H. influenzae and M. catarrhalis are becoming increasingly resistant to penicillins, trimethoprim-sulfamethoxazole, oral cephalosporins, and macrolides. Mechanisms of resistance include changes in penicillin-binding proteins, production of beta-lactamase, alterations in target enzymes, and inhibition of drug access to the site of action. Because of changing resistance patterns and the limited spectra of activity of many currently available antimicrobials, new antimicrobials have been developed in the hope of improving therapy. While amoxicillin and trimethoprim-sulfamethoxazole are appropriate first-line agents, children at risk for resistant infections may be treated initially with cefuroxime axetil, cefpodoxime proxetil, cefprozil, or amoxicillin-clavulanate. After local resistance patterns, patient adherence to therapy, in vitro data, and cost factors have been weighed, other agents to consider include loracarbef, clarithromycin, azithromycin, and ceftriaxone. Along with the efforts to improve treatment, research is focusing on the prevention of otitis media with bacterial and viral vaccines. The emergence of resistant strains of organisms causing AOM has complicated its treatment.

L16 ANSWER 6 OF 11 MEDLINE
AN 1998279666 MEDLINE
TI Vaccination against middle-ear bacterial and viral pathogens.
AU Giebink G S
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (1997 Dec 29) 830 330-52. Ref: 121
Journal code: 7506858. ISSN: 0077-8923.
AB Considerable evidence suggests that otitis media (OM) can be prevented by systemic immunization. Building on the highly effective H. influenzae type b (Hib) conjugate vaccine technology, pneumococcal conjugate vaccines are being developed to circumvent T-independence of these antigens and provide durable immunity at a very young age. Several pneumococcal conjugate vaccines are currently in clinical testing. Potential vaccine antigens of nontypable H. influenzae (NTHi) include OMP, HMW, pili, and fimbriae. Several OMPs show extensive homology among strains, but surface, determinants of others are highly variable so that antibodies to surface epitopes of one strain will not bind to surface epitopes of another. Several M. catarrhalis OMP and HMW antigens have vaccine potential, but no functional correlates of protection have been identified, and there is no clear evidence that antibody to M. catarrhalis is associated with OM protection. Attenuated viral vaccines also hold promise of preventing childhood OM. Two clinical trials with killed influenza vaccines have shown a significant reduction in OM among vaccine recipients compared to control children during periods of high influenza disease activity in the community. Passive immunoprophylaxis also has potential for preventing OM. Human bacterial polysaccharide immune globulin was protective for pneumococcal OM in children and in the chinchilla OM model. High-dose respiratory syncytial virus-enriched immunoglobulin reduced the incidence and severity of RSV lower respiratory tract infection in high-risk children. Passive immunoprophylaxis may also be effective in children with specific immune deficiencies, such as IgG2 deficiency, and patients who fail to respond to vaccines.

L16 ANSWER 7 OF 11 MEDLINE
AN 97130436 MEDLINE
TI Dendritic cells are recruited into the airway epithelium during the inflammatory response to a broad spectrum of stimuli.
AU McWilliam A S; Napoli S; Marsh A M; Pemper F L; Nelson D J; Pimm C L; Stumbles P A; Wells T N; Holt P G
SO JOURNAL OF EXPERIMENTAL MEDICINE, (1996 Dec 1) 184 (6) 2429-32. Journal code: 2985109R. ISSN: 0022-1007.
AB A key rate-limiting step in the adaptive immune response at peripheral challenge sites is the transmission of antigen signals to T cells in regional lymph nodes. Recent evidence suggests that specialized dendritic cells (DC) fulfill this surveillance function in the resting state, but their relatively slow turnover in most peripheral tissues brings into question their effectiveness in signaling the arrival of highly pathogenic sources of antigen which require immediate mobilization of the full range of host defenses for maintenance of homeostasis. However, the present report demonstrates that recruitment of a wave of DC into the respiratory tract mucosa is a universal feature of the acute cellular response to local challenge with bacterial, viral, and soluble protein antigens. Consistent with this finding, we also demonstrate that freshly isolated respiratory mucosal DC respond in vitro to a variety of CC chemokines as well as complementary cleavage products and N-formyl-methionyl-leucine-phenylalanine. This suggests that rapid amplification of specific antigen surveillance at peripheral challenge sites is an integral feature of the innate immune response at mucosal surfaces, and serves as an "early warning system" to alert the adaptive immune system to incoming pathogens.

L16 ANSWER 8 OF 11 MEDLINE
AN 96238995 MEDLINE
TI Evaluation of purified UspA from Moraxella catarrhalis as a vaccine in a murine model after active immunization.
AU Chen D; McMichael J C; VanDerMeid K R; Hahn D; Mininni T; Cowell J; Eldridge J
SO INFECTION AND IMMUNITY, (1996 Jun) 64 (6) 1900-5. Journal code: 0246127. ISSN: 0019-9567.
AB Moraxella catarrhalis causes otitis media, laryngitis, and respiratory infections in humans. A high-molecular-weight outer membrane protein from this bacterium named ubiquitous surface protein A (UspA) is present on all isolates. A monoclonal antibody (MAb) to UspA that recognizes a conserved epitope of this protein has been shown to promote pulmonary clearance of bacteria in passively immunized mice. In the present study, M. catarrhalis heterologous isolates were screened by dot blot with a panel of four additional MAbs specific for surface-exposed epitopes of UspA from M. catarrhalis isolate 035E. Three of the MAbs were specific for 035E, and the fourth reacted with 17 (74%) of the 23 isolates tested. Thus, UspA contains highly conserved, semiconserved, and variable surface-exposed epitopes. The UspA was purified from the 035E isolate by ion-exchange and size-exclusion chromatography, formulated with the adjuvant QS-21, and used to immunize BALB/c mice. Upon pulmonary challenge with either 035E or the heterologous isolate TTA24, significantly fewer bacteria were recovered from the lungs of immunized mice 6 h postchallenge than from control mice. The immune sera from mice or guinea pigs contained high titers of antibodies to the homologous isolate and heterologous isolates in a

whole-bacterial-cell enzyme-linked immunosorbent assay. Sera against UspA, whether prepared in mice or guinea pigs, had complement-dependent bactericidal activity toward homologous and 11 heterologous M. catarrhalis isolates. These results indicate that the conserved epitopes of the UspA are highly immunogenic and elicit broadly reactive and biologically functional antibodies. UspA may offer protection against M. catarrhalis infections and is being further evaluated as a vaccine candidate.

L16 ANSWER 9 OF 11 MEDLINE
AN 94234646 MEDLINE
TI Preventing otitis media.
AU Giebink G S
SO ANNALS OF OTOLOGY, RHINOLOGY, AND LARYNGOLOGY. SUPPLEMENT, (1994 May) 163 20-3. Ref: 17
Journal code: 1256156. ISSN: 0096-8056.
AB Recurrent acute otitis media (AOM) is an extremely prevalent disease in young children. Epidemiologic associations suggest that primary prevention or reduction of AOM frequency may be achieved with breast-feeding during infancy, elimination of household tobacco smoking, and use of small rather than large day-care arrangements for infants and toddlers. Secondary antimicrobial prophylaxis with amoxicillin or sulfisoxazole reduces the frequency of recurrent AOM by about 50%, but it does not appear to reduce the duration of otitis media with effusion (OME). Tympanostomy tube insertion is not as effective as amoxicillin in reducing AOM frequency in children without OME. Adenoidectomy appears to be warranted for children who develop recurrent AOM after extrusion of tubes. Vaccines against the common bacteria and viruses causing AOM hold the greatest promise of preventing AOM and blocking the sequence of pathologic events leading to chronic OME and middle ear sequelae. The greatest progress has been made recently with pneumococcal protein conjugate vaccines, and clinical testing is in progress.

L16 ANSWER 10 OF 11 MEDLINE
AN 93329207 MEDLINE
TI Effect of immunization of pulmonary clearance of Moraxella catarrhalis in an animal model.
AU Maciver I; Unhanand M; McCracken G H Jr; Hansen E J
SO JOURNAL OF INFECTIOUS DISEASES, (1993 Aug) 168 (2) 469-72.
Journal code: 0413675. ISSN: 0022-1899.
AB A murine model for pulmonary clearance of Moraxella catarrhalis was used to determine whether immunization could enhance clearance of this organism from the lungs. Animals actively immunized with outer membrane vesicles of M. catarrhalis cleared an endobronchial challenge with the homologous strain more quickly than did sham-immunized control animals. Western blot analysis of both this immune mouse serum and rabbit antiserum raised against outer membrane vesicles of M. catarrhalis indicated that antibodies were present to both outer membrane protein and lipooligosaccharide antigens. Passive immunization of mice with the immune rabbit serum resulted in enhanced pulmonary clearance of both homologous and heterologous strains of M. catarrhalis, indicating the involvement of serum antibody in this clearance process and the existence of conserved surface antigens in the two different M. catarrhalis strains. These results suggest that this model system may be useful for the identification of vaccine candidates among the surface antigens of M. catarrhalis.

L16 ANSWER 11 OF 11 MEDLINE
AN 93235586 MEDLINE
TI Secretory IgA-, IgG- and C3b-coated bacteria in the nasopharynx of otitis-prone and non-otitis-prone children.
AU Stenfors L E; Raisanen S
SO ACTA OTO-LARYNGOLOGICA, (1993 Mar) 113 (2) 191-5.
Journal code: 0370354. ISSN: 0001-6489.
AB The proportions of secretory IgA (SIgA)-, IgG- and C3b-coated bacteria obtained from a well-defined area on the posterior wall of the nasopharynx (NPH) close to the Eustachian tube were determined. Samples taken from 25 otitis-prone (OP) and 25 non-otitis-prone (NOP) children with normal serum levels of IgA and IgG were evaluated using an immunofluorescence assay. Both groups harboured significantly more nasopharyngeal bacteria coated with IgG than with SIgA ($p < 0.001$). The OP children had significantly fewer SIgA-coated bacteria ($p < 0.05$) but more C3b-coated bacteria ($p < 0.01$) in the NPH than the NOP children had. No significant difference was noted between the two groups regarding IgG coating. The occurrence of Branhamella catarrhalis in the NHP was more pronounced in the OP group ($p < 0.05$). No significant differences in the occurrence of other middle ear pathogens (Streptococcus pneumoniae, Haemophilus influenzae, Staphylococcus aureus) or quantitative dominance of pathogens were noted between the two groups. Deficiency in SIgA coating of the nasopharyngeal bacteria may contribute to the otitis-prone condition.

(FILE 'HCAPLUS, MEDLINE, BIOSIS, EMBASE, WPIDS, CONFSCI, SCISEARCH, JICST-EPLUS, JAPIO, USPATFULL' ENTERED AT 10:18:03 ON 10 JUL 2003)
L17 22 S "THONNARD J"?/AU AND L4
L18 20 DUP REM L17 (2 DUPLICATES REMOVED)

L18 ANSWER 1 OF 20 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 1
ACCESSION NUMBER: 2001:101183 HCAPLUS
DOCUMENT NUMBER: 134:161878
TITLE: Moraxella catarrhalis BASB114 antigens and uses thereof
INVENTOR(S): **Thonnard, Joelle**
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001009179	A1	20010208	WO 2000-EP7293	20000727

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,

BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
EP 1204678 A1 20020515 EP 2000-956338 20000727
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, MC, IE, SI, LT, LV, FI, RO, MK, CY, AL
JP 2003506027 T2 20030218 JP 2001-513985 20000727
PRIORITY APPLN. INFO.: GB 1999-17977 A 19990730
WO 2000-EP7293 W 20000727

AB The invention provides BASB114 **polypeptides** and polynucleotides encoding BASB114 **polypeptides** and methods for producing such **polypeptides** by recombinant techniques. Also provided are diagnostic, prophylactic and therapeutic uses.

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 20 HCAPLUS COPYRIGHT 2003 ACS
ACCESSION NUMBER: 2001:618174 HCAPLUS
DOCUMENT NUMBER: 135:191336
TITLE: Recombinant Haemophilus influenza outer membrane **protein** and use thereof in vaccination
INVENTOR(S): Berthet, Francois-Xavier Jacques; Denoel, Philippe; Poolman, Jan; **Thonnard, Joelle**
PATENT ASSIGNEE(S): SmithKline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 29 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001061013	A1	20010823	WO 2001-EP1556	20010213
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1254234	A1	20021106	EP 2001-913816	20010213
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
US 2003096370	A1	20030522	US 2002-203942	20021021

PRIORITY APPLN. INFO.: GB 2000-3502 A 20000215
WO 2001-EP1556 W 20010213

AB This invention relates to recombinant bacterial outer membrane **proteins** comprising one or more LB1(f) **peptides** from surface-exposed loop 3 of MOMP P5 of non-typeable H. influenzae. The invention also relates to a method of isolating the recombinant **proteins** and a vaccine compn. for use in the treatment of Haemophilus influenzae infection.

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN

THE RE FORMAT

L18 ANSWER 3 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-244783 [25] WPIDS
DOC. NO. NON-CPI: N2001-174285
DOC. NO. CPI: C2001-073454
TITLE: Novel BASB129-BASB131 **polypeptides** isolated from Moraxella catarrhalis bacterium useful as a diagnostic reagent for M.catarrhalis infections and for producing vaccines against otitis media and pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001019862	A2	20010322	(200125)*	EN	80

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2001013839	A	20010417	(200140)	
EP 1214339	A2	20020619	(200240)	EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001019862	A2	WO 2000-EP9034	20000914
AU 2001013839	A	AU 2001-13839	20000914
EP 1214339	A2	EP 2000-975853	20000914
		WO 2000-EP9034	20000914

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2001013839	A	Based on	WO 200119862
EP 1214339	A2	Based on	WO 200119862

PRIORITY APPLN. INFO: GB 1999-22829 19990925; GB 1999-21693 19990914; GB 1999-21694 19990914

AN 2001-244783 [25] WPIDS

AB WO 200119862 A UPAB: 20010508
NOVELTY - Isolated Moraxella catarrhalis BASB129-BASB131 **polypeptides** (I) comprising a fully defined sequence of 344 (S2), 678 (S4), 469 (S6) amino acids, respectively as given in the specification, or an isolated **polypeptide** (Ia) which has 85% identity to (S2), (S4) or (S6), is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for

the following:

(1) an immunogenic fragment (II), of (I) which has the same immunogenic activity as (I);

(2) an isolated polynucleotide (III), or its complementary nucleotide sequence comprising a nucleotide sequence:

(i) encoding a **polypeptide** that has 85% identity over the entire length of (S2), (S4), (S6);

(ii) that has 85% identity over the entire length of the nucleotide sequence encoding region which encodes (S2), (S4), (S6);

(iii) which has 85% identity over the entire length of a fully defined nucleotide sequence of 1035 (S1), 2037 (S3), 1410 (S5), base pairs as given in the specification;

(iv) comprising a nucleotide sequence encoding (I) obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (S1), (S3), (S5);

(v) encoding (S2), (S4) or (S6); or

(vi) an isolated polynucleotide comprising (S1), (S3) or (S5);

(3) an expression vector (IV), or a recombinant live microorganism comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of the host cell expressing (I);

(5) preparation of (I) or (II);

(6) expressing (III) involves transforming (V) with (IV) which contains any one of the polynucleotides (III) given above and culturing (V) under suitable conditions to express (III);

(7) a vaccine composition which comprises (I) or (II);

(8) a vaccine composition which comprises (III);

(9) an antibody (Ab) immunospecific for (I) or (II); and

(10) a therapeutic composition comprising an antibody directed against (I) useful in treating humans with M.catarrhalis disease.

ACTIVITY - Antiinflammatory; auditory.

MECHANISM OF ACTION - Gene therapy; vaccine; initial physical attraction between a pathogen and a mammalian extracellular matrix **protein** inhibitor.

The biological activity of (I) was tested in mice. Groups of mice were immunized with BASB129, BASB130 and BASB131 vaccine. After the booster, the mice were challenged by bacterial suspension into the nostril under anesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed and homogenized. The log10 weighted mean number of colony forming unit (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log10 weighted mean number of CFU/lung and the standard deviations were calculated for each group. Results were analyzed statistically. Results showed that BASB129, BASB130 and BASB131 vaccine induced significant lung clearance as compared to the control group.

USE - The composition comprising (I), (II) or (III) is useful for preparation of a medicament used for generating an immune response in an animal. (I) is also useful as diagnostic reagent for M.catarrhalis which involves identifying (I), an antibody against (I) present within the biological sample from an animal suspected of having such an infection (claimed). Fragments of (I) are useful for producing corresponding full length **polypeptides** by **peptide** synthesis. The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB129-BASB131 and to

isolate cDNA and genomic clones of other genes that have high sequence identity to BASB129-BASB131 gene. The polynucleotide sequences can also be used in the discovery and development of antibacterial compounds. The encoded **protein** can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Dalgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The polynucleotides are also useful as diagnostic reagents in which the mutations in the polynucleotide sequence may be detected and used to diagnose and/or prognose the infection or its stage or course. The polynucleotides may be used as components of arrays which have diagnostic and prognostic uses. Antibodies against (I) are useful for treating bacterial infections and to isolate or identify clones expressing (I) or (II), to purify the **polypeptides** by affinity chromatography. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (S1), (S3) or (S5) are used as PCR (polymerase chain reaction) primers. The polynucleotides are also useful in the diagnosis of the stage of infection and type of infection the pathogen has attained. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to mammalian, host thus preventing the sequelae of infection. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with M.catarrhalis to identify **protein** groups able to provoke a prophylactic or therapeutic immune response. The vaccine comprising (I), (II) or (III) is useful for treating Moraxella catarrhalis infections such as sinusitis, nosocomial infections, otitis media and pneumonia.
Dwg.0/0

L18 ANSWER 4 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159876 [16] WPIDS
DOC. NO. NON-CPI: N2001-116486
DOC. NO. CPI: C2001-047628
TITLE: New BASB117 **polypeptides** from Moraxella catarrhalis strain MC2931 (ATCC 43617), useful as therapeutic agents or vaccines against bacterial (especially M. catarrhalis) infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009339	A2	20010208	(200116)*	EN	79

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG

KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN
YU ZA ZW
AU 2000065688 A 20010219 (200129)
EP 1206547 A2 20020522 (200241) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK
NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009339	A2	WO 2000-EP7422	20000731
AU 2000065688	A	AU 2000-65688	20000731
EP 1206547	A2	EP 2000-953131	20000731
		WO 2000-EP7422	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000065688	A	Based on	WO 200109339
EP 1206547	A2	Based on	WO 200109339

PRIORITY APPLN. INFO: GB 1999-18206 19990803
AN 2001-159876 [16] WPIDS
AB WO 200109339 A UPAB: 20010323
NOVELTY - Moraxella catarrhalis strain MC2931 (ATCC 43617) BASB117 **polypeptides**, both of 216 amino acids (I and II) as defined in the specification, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (P1) comprising an amino acid sequence which has at least 85%, preferably 100%, identity to (I) or (II) over their entire length;

(2) an immunogenic fragment (P2) of the **polypeptide**, in which the immunogenic activity of the fragment is substantially the same as (I) or (II);

(3) an isolated polynucleotide (N1) selected from:

(a) a nucleotide sequence encoding (I), (II), P1 or P2;

(b) an isolated polynucleotide comprising a nucleotide sequence encoding a **polypeptide** that has at least 85%, preferably 95%, identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(c) an isolated polynucleotide comprising a nucleotide sequence that has at least 85%, preferably 95%, identity to a nucleotide sequence encoding (I) or (II) over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(d) an isolated polynucleotide comprising the 648 (III) or 651 basepair (bp) sequence (IV) fully defined in the specification;

(e) an isolated polynucleotide comprising a nucleotide sequence which has at least 85%, preferably 95%, identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(f) a nucleotide sequence encoding (I) or (II) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having the sequence of (III), (IV) or its fragments;

(4) an expression vector or a recombinant live microorganism

comprising N1;

(5) a host cell comprising the expression vector of (4), or a subcellular fraction or membrane of the host cell expressing P1;

(6) a process for producing (I), (II), P1 or P2 by culturing the host cell of (5);

(7) a process for expressing N1 comprising transforming a host cell with the expression vector of (4) and culturing the host cell;

(8) a vaccine compositions comprising (I), (II), P1 or P2 or N1;

(9) an antibody immunospecific for (I), (II), P1 or P2;

(10) a method for diagnosing a Moraxella catarrhalis infection comprising identifying (I), (II), P1 or P2 or the antibody of (9) present within a biological sample from an animal suspected of having such an infection; and

(11) a therapeutic composition for treating humans with Moraxella catarrhalis disease, comprising at least one antibody against (I), (II), P1 or P2.

ACTIVITY - Antibacterial; ophthalmological; antiinflammatory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized with the **polypeptide** (BASB117) or with a killed whole cells (kwc) preparation of Moraxella catarrhalis or sham immunized.

After booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log10 weighted mean number of CFU/lung and the standard deviations were calculated for each group.

No results are given.

USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.

Dwg.0/2

L18 ANSWER 5 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159875 [16] WPIDS
DOC. NO. NON-CPI: N2001-116485

DOC. NO. CPI: C2001-047627
TITLE: New BASB116 **polypeptides** from Moraxella catarrhalis strain MC2931 (ATCC 43617), useful as therapeutic agents or vaccines against bacterial (especially M. catarrhalis) infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009338	A1	20010208	(200116)*	EN	79

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000062788	A	20010219	(200129)	
EP 1206545	A1	20020522	(200241)	EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009338	A1	WO 2000-EP7421	20000731
AU 2000062788	A	AU 2000-62788	20000731
EP 1206545	A1	EP 2000-949429	20000731
		WO 2000-EP7421	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000062788	A	Based on	WO 200109338
EP 1206545	A1	Based on	WO 200109338

PRIORITY APPLN. INFO: GB 1999-18279 19990803
AN 2001-159875 [16] WPIDS
AB WO 200109338 A UPAB: 20010323
NOVELTY - Two Moraxella catarrhalis strain MC2931 (ATCC 43617) BASB116 **polypeptides**, both of 98 amino acids (I and II) as defined in the specification, are new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (P1) comprising an amino acid sequence which has at least 85%, preferably 100%, identity to (I) or (II) over their entire length;

(2) an immunogenic fragment (P2) of the **polypeptide**, in which the immunogenic activity of the fragment is substantially the same as (I) or (II);

(3) an isolated polynucleotide (N1) selected from:

(a) a nucleotide sequence encoding (I), (II), P1 or P2;

(b) an isolated polynucleotide comprising a nucleotide sequence encoding a **polypeptide** that has at least 85% identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(c) an isolated polynucleotide comprising a nucleotide sequence that has at least 85%, preferably 95%, identity to a nucleotide sequence encoding (I) or (II) over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(d) an isolated polynucleotide comprising the 297 (III) or 294 (IV) basepair (bp) sequence fully defined in the specification;

(e) an isolated polynucleotide comprising a nucleotide sequence which has at least 85%, preferably 95%, identity to (I) or (II) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(f) a nucleotide sequence encoding (I) or (II) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having the sequence of (III), (IV) or its fragments;

(4) an expression vector or a recombinant live microorganism comprising N1;

(5) a host cell comprising the expression vector of (4), or a subcellular fraction or membrane of the host cell expressing P1;

(6) a process for producing (I), (II), P1 or P2 by culturing the host cell of (5);

(7) a process for expressing N1 comprising transforming a host cell with the expression vector of (4) and culturing the host cell;

(8) a vaccine compositions comprising (I), (II), P1 or P2 or N1;

(9) an antibody immunospecific for (I), (II), P1 or P2;

(10) a method for diagnosing a Moraxella catarrhalis infection comprising identifying (I), (II), P1 or P2 or the antibody of (9) present within a biological sample from an animal suspected of having such an infection; and

(11) a therapeutic composition for treating humans with Moraxella catarrhalis disease, comprising at least one antibody against (I), (II), P1 or P2.

ACTIVITY - Antibacterial; ophthalmological; antiinflammatory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized with the **polypeptide** (BASB116) or with a killed whole cells (kwc) preparation of Moraxella catarrhalis or sham immunized.

After booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log10 weighted mean number of CFU/lung and the standard deviations were calculated for each group.

No results are given.

USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially

humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.
Dwg.0/2

L18 ANSWER 6 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159874 [16] WPIDS
DOC. NO. NON-CPI: N2001-116484
DOC. NO. CPI: C2001-047626
TITLE: New BASB122 and BASB124 **polypeptides** and polynucleotides from Moraxella catarrhalis strain ATCC 43617, useful as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009337	A2	20010208	(200116)*	EN	75
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000065683	A	20010219	(200129)		
EP 1204749	A2	20020515	(200239)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009337	A2	WO 2000-EP7365	20000731
AU 2000065683	A	AU 2000-65683	20000731
EP 1204749	A2	EP 2000-953120	20000731
		WO 2000-EP7365	20000731

FILING DETAILS:

PATENT NO	KIND	PATENT NO

AU 2000065683 A Based on WO 200109337
EP 1204749 A2 Based on WO 200109337

PRIORITY APPLN. INFO: GB 1999-18036 19990730; GB 1999-18034 19990730
AN 2001-159874 [16] WPIDS
AB WO 200109337 A UPAB: 20010323
NOVELTY - New isolated **polypeptides**, comprising either of two 111 amino acid (I) or two 328 amino acid (II) sequences from Moraxella catarrhalis, all fully defined in the specification, or an at least 85 % identical sequence over their entire length, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide encoding the novel **polypeptide**, comprising:

(a) a sequence encoding the novel **polypeptide**;

(b) a sequence having at least 85 % identity to (a) over its entire length;

(c) a 336 (III) or 987 (IV) base pair sequence, both fully defined in the specification;

(d) a sequence at least 85 % identical to (III) or (IV) over their entire length;

(e) the complements of (a)-(d); or

(f) a sequence encoding (I) or (II) obtained by screening a library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of them;

(2) a statement vector or a recombinant live microorganism, comprising the polynucleotide of (1);

(3) a host cell comprising the vector of (2), or a subcellular fraction or membrane of the host cell expressing the novel **polypeptide**;

(4) a process for producing the novel **polypeptide**, comprising culturing the host cell of (3) under expression conditions, and recovering the **polypeptide**;

(5) a process for expressing the polynucleotide of (1), comprising transforming a host cell with the vector of (2), and culturing the cell for expression of the polynucleotide;

(6) a vaccine composition comprising the novel **polypeptide** or the polynucleotide of (1), and a carrier;

(7) an antibody immunospecific for the novel **polypeptide** or its immunological fragment;

(8) a method for diagnosing a M. catarrhalis infection, comprising identifying the novel **polypeptide** or the antibody of (7) present within a biological sample; and

(9) a therapeutic composition comprising at least one antibody against the novel **polypeptide**.

ACTIVITY - Antibacterial; antiinflammatory; auditory.

MECHANISM OF ACTION - Vaccine; gene therapy.

No biological data is given.

USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection. (All claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis,

particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.
Dwg.0/0

L18 ANSWER 7 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159873 [16] WPIDS
DOC. NO. NON-CPI: N2001-116483
DOC. NO. CPI: C2001-047625
TITLE: New BASB119 **polypeptides** and polynucleotides from Moraxella catarrhalis strain ATCC 43617, useful as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009336	A1	20010208	(200116)*	EN	82
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000069887	A	20010219	(200129)		
EP 1206549	A1	20020522	(200241)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
CN 1377411	A	20021030	(200314)		
JP 2003506045	W	20030218	(200315)		82

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009336	A1	WO 2000-EP7363	20000731
AU 2000069887	A	AU 2000-69887	20000731
EP 1206549	A1	EP 2000-958324	20000731
		WO 2000-EP7363	20000731
CN 1377411	A	CN 2000-813833	20000731
JP 2003506045	W	WO 2000-EP7363	20000731
		JP 2001-514128	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000069887	A	Based on	WO 200109336
EP 1206549	A1	Based on	WO 200109336
JP 2003506045	W	Based on	WO 200109336

PRIORITY APPLN. INFO: GB 1999-18302 19990803
AN 2001-159873 [16] WPIDS
AB WO 200109336 A UPAB: 20010323
NOVELTY - New isolated **polypeptides**, comprising either of two 171 residue amino acid sequences (I and II) from Moraxella catarrhalis, both fully defined in the specification, or a sequence at least 85 % identical to (I) or (II), over their entire length, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated polynucleotide encoding the novel **polypeptide**, comprising:

(a) a sequence encoding (I) or (II);

(b) a sequence having at least 85 % identity to the sequence encoding (I) or (II) over the entire coding region;

(c) a 516 (III) or 513 (IV) base pair sequence, fully defined in the specification;

(d) a sequence having at least 85 % identity to (III) or (IV) over their entire length;

(e) the complements of (a)-(d); or

(f) a sequence encoding (I) or (II) obtained by screening a library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of (III) or (IV);

(2) an statement vector or a recombinant live microorganism comprising the polynucleotide of (1);

(3) a host cell comprising the vector of (2), or a subcellular fraction or membrane of the host cell expressing the novel **polypeptide**;

(4) a process for producing the novel **polypeptide**, comprising culturing the cell of (3) under expression conditions, and recovering the **polypeptide**;

(5) a process for expressing the polynucleotide of (1), comprising transforming a host cell with the vector of (2), and culturing the host cell for expression of the polynucleotide;

(6) vaccine compositions comprising the novel **polypeptide** or the polynucleotide of (1), and a carrier;

(7) an antibody immunospecific for the novel **polypeptide** or its immunological fragment;

(8) a method for diagnosing a M. catarrhalis infection, comprising identifying the novel **polypeptide** or the antibody present within a biological sample; and

(9) a therapeutic composition comprising at least one antibody against the novel **polypeptide**.

ACTIVITY - Antibacterial; antiinflammatory; auditory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized either with the **polypeptide** (BASB119) adsorbed onto AlPO4 (10 micro g BASB119 onto 100 micro g of AlPO4), with a killed whole cell (kwc) preparation of M. catarrhalis strain ATCC 43617 adsorbed onto AlPO4,

or with 100 micro g AlPO4 without antigen. The mice were challenged with 5 multiply 105 colony forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge was calculated for each group. Sham immunized mice had 5.41 (+/-0.2) log10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.58 log difference). BASB119 vaccine induced a 1.34 log difference in lung clearance, which was significantly different from the control.

USE - The composition comprising the novel **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection. (All claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.

Dwg.0/3

L18 ANSWER 8 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159872 [16] WPIDS
DOC. NO. NON-CPI: N2001-116482
DOC. NO. CPI: C2001-047624
TITLE: New BASB120 **polypeptides** and polynucleotides from Moraxella catarrhalis strain American Type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009335	A2	20010208	(200116)*	EN	75

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000064397 A 20010219 (200129)
EP 1206546 A2 20020522 (200241) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009335	A2	WO 2000-EP7361	20000731
AU 2000064397	A	AU 2000-64397	20000731
EP 1206546	A2	EP 2000-951472	20000731
		WO 2000-EP7361	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000064397	A	Based on	WO 200109335
EP 1206546	A2	Based on	WO 200109335

PRIORITY APPLN. INFO: GB 1999-18281 19990803
AN 2001-159872 [16] WPIDS
AB WO 200109335 A UPAB: 20010323
NOVELTY - An isolated **polypeptide** (PP) comprising:
(a) a sequence of 250 amino acids (I) from Moraxella catarrhalis, given in the specification; or
(b) an amino acid sequence, which has at least 85% identity to (I), over the entire length of (I), is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) an immunogenic fragment of the **polypeptide**, in which the immunogenic activity of the fragment is the same as (I);
(2) isolated polynucleotides, which encode the **polypeptides**, comprising:
(i) a nucleotide sequence encoding (PP);
(ii) a nucleotide sequence having 85% identity to the nucleotide sequence encoding (I) over the entire coding region;
(iii) a 753 base pair (bp) DNA sequence (II), given in the specification;
(iv) a nucleotide sequence having 85% identity to (II) over the entire length of (II);
(v) the complements of (i)-(iv); or
(vi) a nucleotide sequence encoding (I) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (II) or its fragments;
(3) an expression vector or a recombinant live microorganism comprising (2);
(4) a host cell comprising the expression vector, or a subcellular fraction or membrane of the host cell expressing (PP);
(5) producing (PP) comprising culturing (4) to produce (PP) and recovering (PP) from the culture medium;
(6) expressing (2) comprising transforming a host cell with the expression vector and culturing the host cell for expression of any of the polynucleotides;
(7) vaccine compositions comprising (PP) or (2), and a pharmaceutical carrier;
(8) an antibody immunospecific for (PP) or immunological

fragment of (1);

(9) diagnosing a M. catarrhalis infection comprising identifying (PP) or the antibody of (8) present within a biological sample from an animal suspected of having such an infection;

(10) using the compositions of (7) for preparing a medicament for use in generating an immune response in an animal; and

(11) a therapeutic composition comprising the antibody of (8).

ACTIVITY - Antibacterial; antiinflammatory; pulmonary.

MECHANISM OF ACTION - Vaccine; gene therapy. Clinical test details are described but no results are given.

USE - A composition comprising an immunologic amount of (PP) or a polynucleotide encoding it, is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging diseases, and determining the response of an infectious organism to drugs.

Dwg.0/2

L18 ANSWER 9 OF 20 WPIDS (C) 2003 THOMSON DERWENT

ACCESSION NUMBER: 2001-159871 [16] WPIDS

DOC. NO. NON-CPI: N2001-116481

DOC. NO. CPI: C2001-047623

TITLE: New BASB118 **polypeptides** and polynucleotides from Moraxella catarrhalis strain American Type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.

DERWENT CLASS: B04 D16 S03

INVENTOR(S): **THONNARD, J**

PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS; (SMIK) SMITHKLINE BEECHAM BIOLOGICALS SA

COUNTRY COUNT: 95

PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009334	A1	20010208	(200116)*	EN	77

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN

YU ZA ZW
AU 2000068330 A 20010219 (200129)
EP 1206548 A1 20020522 (200241) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI
JP 2003506044 W 20030218 (200315) 77
CN 1391610 A 20030115 (200330)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009334	A1	WO 2000-EP7360	20000731
AU 2000068330	A	AU 2000-68330	20000731
EP 1206548	A1	EP 2000-956353	20000731
		WO 2000-EP7360	20000731
JP 2003506044	W	WO 2000-EP7360	20000731
		JP 2001-514126	20000731
CN 1391610	A	CN 2000-813834	20000731

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068330	A	Based on	WO 200109334
EP 1206548	A1	Based on	WO 200109334
JP 2003506044	W	Based on	WO 200109334

PRIORITY APPLN. INFO: GB 1999-18208 19990803
AN 2001-159871 [16] WPIDS
AB WO 200109334 A UPAB: 20010323
NOVELTY - An isolated **polypeptide** comprising:
(a) a sequence of 386 amino acids (I) from Moraxella catarrhalis, given in the specification; or
(b) an amino acid sequence, which has 85% identity to (I), over the entire length of (I), is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) an immunogenic fragment of the new **polypeptide**, in which the immunogenic activity of the fragment is the same as (I);
(2) isolated polynucleotides, which encode the new **polypeptide**, comprising:
(i) a nucleotide sequence encoding (a) or (b);
(ii) a nucleotide sequence that has 85% identity to the nucleotide sequence encoding (I) over the entire coding region;
(iii) a 1161 base pair (bp) DNA sequence (II), given in the specification;
(iv) a nucleotide sequence that has 85% identity to (II) over the entire length of (II);
(v) the complements of (i)-(iv); or
(vi) a nucleotide sequence encoding (I) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (II) or its fragments;
(3) an expression vector or a recombinant live microorganism comprising an isolated polynucleotide of (2);
(4) a host cell comprising the expression vector of (3), or a subcellular fraction or membrane of the host cell expressing the new

polypeptide;
(5) producing the new **polypeptide** comprising culturing (4) to produce the new **polypeptide** and recovering it from the culture medium;
(6) expressing a polynucleotide of (2) comprising transforming a host cell with the expression vector of (3) and culturing the host cell for expression of any of the polynucleotides;
(7) vaccine compositions comprising the new **polypeptide** or polynucleotide of (2), and a pharmaceutical carrier;
(8) an antibody immunospecific for the new **polypeptide** or immunological fragment;
(9) diagnosing a M. catarrhalis infection comprising identifying the new **polypeptide** or the antibody of (8) present within a biological sample from an animal suspected of having such an infection; and
(10) a therapeutic composition comprising an antibody of (8).
ACTIVITY - Antibacterial; antiinflammatory; pulmonary.
MECHANISM OF ACTION - Vaccine; gene therapy. Groups of mice were immunized either with the **polypeptide** (BASB118) adsorbed onto AlPO4 (10 micro g BASB118 onto 100 micro g of AlPO4), with a killed whole cell (kwc) preparation of M. catarrhalis strain American type Culture Collection (ATCC) 43617 adsorbed onto AlPO4, or with 100 micro g AlPO4 without antigen. The mice were challenged with 5 multiply 105 colony forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge was calculated for each group. Sham immunized mice had 5.66 (+/-0.18) log10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.3 log difference). BASB118 vaccine induced a 0.43 log difference in lung clearance, which was significantly different from the control.
USE - A composition comprising an immunologic amount of the new **polypeptide** or polynucleotide encoding it, is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptide** may also be used as a prophylactic agent of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the new **polypeptide** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging diseases, and determining the response of an infectious organism to drugs.
Dwg.0/1

L18 ANSWER 10 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159870 [16] WPIDS
DOC. NO. NON-CPI: N2001-116480

DOC. NO. CPI: C2001-047622
TITLE: New BASB123 **polypeptides** and polynucleotides from Moraxella catarrhalis strain American type Culture Collection 43617, for use as therapeutic agents or vaccines against bacterial infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009333	A2	20010208	(200116)*	EN	79

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000069880	A	20010219	(200129)	
EP 1216301	A2	20020626	(200249)	EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009333	A2	WO 2000-EP7296	20000727
AU 2000069880	A	AU 2000-69880	20000727
EP 1216301	A2	EP 2000-958311	20000727
		WO 2000-EP7296	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000069880	A	Based on	WO 200109333
EP 1216301	A2	Based on	WO 200109333

PRIORITY APPLN. INFO: GB 1999-17975 19990730
AN 2001-159870 [16] WPIDS
AB WO 200109333 A UPAB: 20010323
NOVELTY - An isolated **polypeptide** comprising:
(a) a sequence comprising one of two 167 amino acid sequences (designated I and II) from Moraxella catarrhalis, given in the specification; or
(b) an amino acid sequence, which has 85% identity to (I) or (II), over the entire length of (I) or (II), respectively, is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(1) an immunogenic fragment of the new **polypeptide**, in which the immunogenic activity of the fragment is the same as (I) or (II);
(2) isolated polynucleotides, which encode the new

polypeptide, comprising:

(i) a nucleotide sequence encoding (a) or (b);

(ii) a nucleotide sequence that has 85% identity to the nucleotide sequence encoding (I) or (II) over the entire coding region;

(iii) a 504 base pair (bp) (III) or 501 bp (IV) DNA sequence, given in the specification;

(iv) a nucleotide sequence that has 85% identity to (III) or (IV) over the entire length of (III) or (IV), respectively;

(v) the complements of (i)-(iv); or

(vi) a nucleotide sequence encoding (I) or (II) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having (III), (IV), or fragments of (III) or (IV);

(3) an expression vector or a recombinant live microorganism comprising a polynucleotide of (2);

(4) a host cell comprising the expression vector of (3), or a subcellular fraction or membrane of the host cell expressing the new **polypeptide**;

(5) producing the new **polypeptide** comprising culturing (4) t produce the **polypeptide** and recovering it from the culture medium;

(6) expressing a polynucleotide of (2) comprising transforming a host cell with the expression vector of (3) and culturing the host cell for expression of any of the polynucleotides;

(7) vaccine compositions comprising the new **polypeptide** or polynucleotide of (2), and a pharmaceutical carrier;

(8) an antibody immunospecific for the new **polypeptide** or an immunological fragment;

(9) diagnosing a M. catarrhalis infection comprising identifying the new **polypeptide** or the antibody of (8) present within a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition comprising an antibody of (8).

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine; gene therapy. Clinical details are described but no results are given.

USE - A composition comprising an immunologic amount of the new **polypeptide** or polynucleotide encoding it, is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptide** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptide** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of diseases, and determining the response of an infectious organism to drugs.

Dwg.0/2

L18 ANSWER 11 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-159869 [16] WPIDS
DOC. NO. NON-CPI: N2001-116479
DOC. NO. CPI: C2001-047621
TITLE: New BASB115 **polypeptide** from Moraxella catarrhalis strain MC2931 (ATCC 43617), useful as a therapeutic agent or vaccine against bacterial (especially M. catarrhalis) infections, e.g. otitis media or pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009332	A2	20010208	(200116)*	EN	72
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000068323	A	20010219	(200129)		
EP 1204752	A2	20020515	(200239)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					
JP 2003506043	W	20030218	(200315)		75
CN 1378597	A	20021106	(200316)		

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009332	A2	WO 2000-EP7294	20000727
AU 2000068323	A	AU 2000-68323	20000727
EP 1204752	A2	EP 2000-956339	20000727
		WO 2000-EP7294	20000727
JP 2003506043	W	WO 2000-EP7294	20000727
		JP 2001-514124	20000727
CN 1378597	A	CN 2000-811104	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068323	A	Based on	WO 200109332
EP 1204752	A2	Based on	WO 200109332
JP 2003506043	W	Based on	WO 200109332

PRIORITY APPLN. INFO: GB 1999-18003 19990730
AN 2001-159869 [16] WPIDS
AB WO 200109332 A UPAB: 20010323
NOVELTY - A Moraxella catarrhalis strain MC2931 (ATCC 43617) BASB115 **polypeptide** of 199 amino acids (I) as defined in the

specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (P1) comprising an amino acid sequence which has at least 85%, preferably 100%, identity to (I) over its entire length;

(2) an immunogenic fragment (P2) of the **polypeptide**, in which the immunogenic activity of the fragment is substantially the same as (I);

(3) an isolated polynucleotide (N1) selected from:

(a) a nucleotide sequence encoding (I), P1 or P2;

(b) an isolated polynucleotide comprising a nucleotide sequence encoding a **polypeptide** that has at least 85%, preferably 95%, identity to (I) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(c) an isolated polynucleotide comprising a nucleotide sequence that has at least 85%, preferably 95%, identity to a nucleotide sequence encoding (I) over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(d) an isolated polynucleotide comprising the 600 basepair (bp) sequence (II) fully defined in the specification;

(e) an isolated polynucleotide comprising a nucleotide sequence which has at least 85%, preferably 95%, identity to (I) over its entire length, or a nucleotide sequence complementary to the isolated polynucleotide;

(f) a nucleotide sequence encoding (I) obtainable by screening an appropriate library, under stringent conditions, with a labeled probe having the sequence of (II) or its fragments;

(4) an expression vector or a recombinant live microorganism comprising N1;

(5) a host cell comprising the expression vector of (4), or a subcellular fraction or membrane of the host cell expressing P1;

(6) a process for producing (I), P1 or P2 by culturing the host cell of (5);

(7) a process for expressing N1 comprising transforming a host cell with the expression vector of (4) and culturing the host cell;

(8) a vaccine compositions comprising (I), P1 or P2 or N1;

(9) an antibody immunospecific for (I), P1 or P2;

(10) a method for diagnosing a M. catarrhalis infection comprising identifying (I), P1 or P2 or the antibody of(9) present within a biological sample from an animal suspected of having such an infection; and

(11) a therapeutic composition for treating humans with M. catarrhalis disease, comprising at least one antibody against (I), P1 or P2.

ACTIVITY - Antibacterial; ophthalmological; antiinflammatory.

MECHANISM OF ACTION - Vaccine; gene therapy.

Groups of mice were immunized either with the **polypeptide** (BASB115) adsorbed onto AlPO4 (10 mu g BASB115 onto 100 mu g of AlPO4), with a killed whole cells (kwc) preparation of M. catarrhalis strain ATCC 43617 adsorbed onto AlPO4, or with 100 mu g AlPO4 without antigen. The mice were challenged with 5 x 105 colony forming units (CFU) of live M. catarrhalis strain ATCC 43617 bacteria. The log10 weighted mean number of CFU/lung and the standard deviation 4 hours after challenge was calculated for each group. Sham immunized mice had 5.66 (+/-0.18) log10 CFU/lungs 4 hours after challenge. The kwc preparation induced significant lung clearance as compared to the control group (1.76 log difference).

BASB115 vaccine induced a 0.46 log difference in lung clearance, which was significantly different from the control.

USE - The composition comprising an immunologic amount of the **polypeptide** or polynucleotide is useful for preparing a medicament for generating an immune response in an animal. The therapeutic composition is useful in treating humans with M. catarrhalis infection (all claimed). The **polypeptides** may also be used as prophylactic agents of bacterial infections, particularly M. catarrhalis infections in mammals, especially humans. The polynucleotides are useful in therapy or prophylaxis, particularly genetic immunization against these infections or diseases. These diseases include otitis media in infants or children, pneumonia in elderlies, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in the middle ear, infection of the upper respiratory tract, or inflammation of the middle ear. The **polypeptides** or polynucleotides may also be employed as research reagents and materials for discovering treatments of and diagnostics for diseases, particularly human diseases. In particular, the **polypeptides** or polynucleotides are useful in the discovery and development of antibacterial compounds, or for diagnosing diseases, staging of the disease, determining the response of an infectious organism to drugs.

Dwg.0/1

L18 ANSWER 12 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-168707 [17] WPIDS
DOC. NO. NON-CPI: N2001-121639
DOC. NO. CPI: C2001-050432
TITLE: New BASB125 **polypeptide** isolated from Moraxella catarrhalis for treating, preventing and diagnosing diseases associated with M. catarrhalis infection in mammals, e.g. otitis media in humans.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001009331	A2	20010208	(200117)*	EN	73
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000064393	A	20010219	(200129)		
EP 1212424	A2	20020612	(200239)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 2001009331	A2	WO 2000-EP7291	20000727
AU 2000064393	A	AU 2000-64393	20000727
EP 1212424	A2	EP 2000-951466	20000727
		WO 2000-EP7291	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000064393	A	Based on	WO 200109331
EP 1212424	A2	Based on	WO 200109331

PRIORITY APPLN. INFO: GB 1999-18041 19990730
AN 2001-168707 [17] WPIDS
AB WO 200109331 A UPAB: 20010328
NOVELTY - An isolated **polypeptide** having at least 85 % identity to a sequence (I) of 134 amino acids for a Moraxella catarrhalis BASB125 **polypeptide**, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** of sequence (I);

(2) immunogenic fragments of the **polypeptide** having the same immunogenic activity as sequence (I);

(3) an isolated polynucleotide:

(i) having 85 % identity to a polynucleotide encoding the **polypeptide**, especially 85 % identity to sequence (II) of 405 base pairs (bp) encoding sequence (I);

(ii) complementary to a polynucleotide of (i);

(iii) encoding the new **polypeptide**; and

(iv) encoding sequence (I) and obtained by screening a library under stringent conditions using sequence (II) or a fragment as a probe;

(4) vectors or recombinant live microorganisms comprising the polynucleotide;

(5) host cells comprising the vector and subcellular fragments/membranes of the host cells expressing the **polypeptide**;

(6) producing the new **polypeptide** comprising culturing the host cell of (5) to produce the **polypeptide** and recovering the **polypeptide** from the culture medium;

(7) expressing (3) comprising transforming a host cell with an expression vector of (4) and culturing the host cell to express the polynucleotide;

(8) vaccine compositions comprising the new **polypeptide** or (3);

(9) antibodies specific for the new **polypeptide**, or immunological fragments of (2);

(10) diagnosing a M. catarrhalis infection comprising identifying the new **polypeptide** or an antibody immunospecific for the **polypeptide**, present within a biological sample from an animal suspected of having the infection;

(11) preparing a medicament for generating an immune response in an animal using a composition comprising the new **polypeptide** or (3); and

(12) a therapeutic composition for treating humans with M.catarrhalis disease comprising an antibody against the new **polypeptide**.

ACTIVITY - Antibacterial. A sequence (II) of 405 base pairs

(bp) was isolated from M. catarrhalis strain American Type Culture Collection (ATCC) 43617 by standard molecular biological techniques a sequence (I) of 134 amino acids deduced. Mice were immunized with a BASB125 vaccine or a killed whole cell (kwc) M. catarrhalis preparation, or were sham immunized. After a booster, mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed 30 minutes-24 hours after challenge and lungs removed aseptically and homogenized. Homogenates were diluted and plated onto agar plates, and log10 weighted mean number of colony forming units/lung determined by counting. BASB125 vaccine and kwc preparations induced significant lung clearance of M. catarrhalis versus controls. No experimental data is given.

MECHANISM OF ACTION - Vaccine; gene therapy.

USE - The **polypeptide**, immunogenic fragments of the **polypeptide**, fusion **proteins** of the **polypeptide**, or polynucleotides encoding the **polypeptide** are used in **vaccine** compositions (claimed), optionally with another **M. catarrhalis antigen** (claimed). They can also be included in medicaments for use in generating an immune response in an animal (claimed). The **vaccines** and medicaments are useful in preventing and/or treating microbial diseases, especially diseases associated with M. catarrhalis infection in mammals (especially humans). The **polypeptides**/polynucleotides may be used to produce antibodies, which can be used in compositions useful therapeutically to treat humans with M. catarrhalis diseases (claimed). M. catarrhalis is a Gram-negative bacteria frequently isolated from the human upper respiratory tract and responsible for several pathologies in humans e.g. otitis media in children, pneumonia, sinusitis etc. The **polypeptides**, polynucleotides and antibodies are also useful diagnostically e.g. in the detection of the **polypeptides**/antibodies in a biological sample from an animal to diagnose M. catarrhalis infection (claimed). The diagnostic assays are useful e.g. to detect diseases, determine the stage and type of infection, determine the effect of drugs etc. The **polypeptides** and polynucleotides can also be used to detect antagonists and agonists useful e.g. in preventing, inhibiting and/or treating disease. The polynucleotides are also useful in producing hybridization probes to isolate sequences encoding BASB125 and similar sequences.

Dwg.0/0

L18 ANSWER 13 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-182955 [18] WPIDS
DOC. NO. NON-CPI: N2001-130566
DOC. NO. CPI: C2001-054636
TITLE: New BASB126 **polypeptides** of Moraxella catarrhalis useful for diagnostic, prophylactic and therapeutic purposes against microbial diseases, preferably bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT.: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 2001009329 A1 20010208 (200118)* EN 86
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000068316 A 20010219 (200129)
EP 1204750 A1 20020515 (200239) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL RO SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001009329	A1	WO 2000-EP7280	20000727
AU 2000068316	A	AU 2000-68316	20000727
EP 1204750	A1	EP 2000-956332	20000727
		WO 2000-EP7280	20000727

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000068316	A	Based on	WO 200109329
EP 1204750	A1	Based on	WO 200109329

PRIORITY APPLN. INFO: GB 1999-18038 19990730
AN 2001-182955 [18] WPIDS
AB WO 200109329 A UPAB: 20010402
NOVELTY - An isolated BASB126 **polypeptide** (I) of Moraxella catarrhalis, comprises a sequence having at least 85% identity (over the entire length) to one of the two 192 amino acids sequences given in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment (II) of (I), where (II) has the same immunogenicity of (I);

(2) an isolated polynucleotide (III) encoding (I) (II);

(3) an expression vector (IV) or a recombinant live microorganism, comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of (V) expressing (I);

(5) producing (I) comprising culturing (V) and recovering the **polypeptide** from the culture medium;

(6) expressing (III) comprising transforming (V) with (IV) and culturing under conditions sufficient for its expression;

(7) a vaccine (VI) comprising (I), (II) or (III);

(8) an antibody (VII) immunospecific for (I) or (II);

(9) diagnosing Moraxella catarrhalis infection comprising identifying (I) or (VII) in a biological sample from an animal suspected of having such an infection; and

(10) a therapeutic composition (VIII) for treating Moraxella catarrhalis infection comprising at least one (VII).

ACTIVITY - Antibacterial; antimicrobial; auditory; antiinflammatory.

MECHANISM OF ACTION - Vaccine.

Experimental protocols are described but no results are given.

USE - (VI) is useful for preparing a medicament for use in generating immune response in an animal (claimed). (VIII) is useful for treating humans with Moraxella catarrhalis disease (claimed).

(I) and (III) are useful in the prevention, treatment and diagnosis of microbial diseases, preferably bacterial infections such as otitis media, pneumonia, sinusitis, nosocomial infections, and invasive diseases. (I) and (III) are useful as immunogens to produce antibodies, and to asses the binding of small molecule substrate and ligands in, for e.g., cells, cell-free preparations, chemical libraries and natural product mixtures. (I), (III) and (VII) are useful to configured screening methods for detecting the effect of added compounds and production of mRNA and/or **polypeptides** in the cells.

(III) is useful as a hybridization probe for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB126 and to isolate cDNA and genomic clones of other genes that have a high identity particularly high sequence identity, to the BASB126 gene. (II) has utility in diagnosis of the stage and type of infection, and also for therapeutic or prophylactic purposes, in particular genetic immunization. (II) is useful as a component of polynucleotide arrays, preferably high density arrays or grid.

Dwg.0/4

L18 ANSWER 14 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-112459 [12] WPIDS
DOC. NO. NON-CPI: N2001-082527
DOC. NO. CPI: C2001-033488
TITLE: Novel BASB110 **polypeptides** of Moraxella catarrhalis, useful as a vaccine for treating Moraxella catarrhalis infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001000838	A1	20010104	(200112)*	EN	88

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000059779	A	20010131	(200124)		
EP 1196589	A1	20020417	(200233)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001000838	A1	WO 2000-EP5854	20000623

AU 2000059779 A	AU 2000-59779	20000623
EP 1196589 A1	EP 2000-945812	20000623
	WO 2000-EP5854	20000623

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000059779 A	Based on		WO 200100838
EP 1196589	A1 Based on		WO 200100838

PRIORITY APPLN. INFO: GB 1999-15031 19990625

AN 2001-112459 [12] WPIDS

AB WO 200100838 A UPAB: 20010302

NOVELTY - Isolated BASB110 **polypeptides** (I) of Moraxella catarrhalis, are new. The BASB110 **polypeptide** has the 322 (P1) or another 322 (P2) amino acid sequence defined in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (Ia) comprising an amino acid sequence which is at least 85%, preferably 95%, most preferably 100%, identical to the sequence, over its entire length, of P1 or P2;

(2) an immunogenic fragment (Ib) of (I) or (Ia), where the activity of the fragment is substantially the same as P1 or P2;

(3) an isolated polynucleotide (II) encoding (I), (Ia) or (Ib);

(4) an isolated polynucleotide (IIa) comprising a sequence encoding (Ia) or its complementary sequence;

(5) an isolated polynucleotide (IIb) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identity to a sequence encoding P1 or P2 over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(6) an isolated polynucleotide (IIc) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identical to the 969 (N1) or 966 (N2) nucleotides fully defined in the specification, or its complement;

(7) an isolated polynucleotide (IId) comprising a sequence encoding P1 or P2, obtainable by screening an appropriate library under stringent hybridization conditions with labeled probe having the sequence of N1 or N2;

(8) an expression vector (III) of a recombinant live microorganism, comprising (II), (IIa), (IIb), (IIc) or (IId);

(9) a host cell (IV) comprising (III), or a subcellular fraction or membrane of (IV) expressing (Ia);

(10) a process for producing (I), (Ia) or (Ib) comprising culturing (IV);

(11) a process for expressing (II), (IIa), (IIb), (IIc) or (IId), comprising transforming (IV) with (III) and culturing transformed (IV) under conditions sufficient for its expression;

(12) a vaccine composition (V) comprising (I), (Ia) or (Ib), or (II), (IIa), (IIb), (IIc) or (IId);

(13) an antibody (Ab1) immunospecific for (I), (Ia) or (Ib); and

(14) a method for diagnosing Moraxella catarrhalis infection, by identifying (I)-(Ib) or Ab1 present within a biological sample from an animal suspected of having such an infection.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

Groups of mice are immunized with BASB110 vaccine. After the booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log 10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log 10 weighted mean number of CFU/lung and the standard deviations were calculated for each group. Results were not given in the specification.

USE - The vaccine is useful for preparing a medicament for use in generating immune response in an animal (claimed). Ab1 is useful for treating humans suffering from Moraxella catarrhalis disease (claimed).

Polynucleotides encoding the BASB110 **polypeptides** have utility in diagnosis of the stage and type of infection, and also for therapeutic or prophylactic purposes, in particular genetic immunization.

Dwg.0/3

L18 ANSWER 15 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-112458 [12] WPIDS
DOC. NO. NON-CPI: N2001-082526
DOC. NO. CPI: C2001-033487
TITLE: New BASB113 **polypeptide** isolated from Moraxella catarrhalis bacterium, useful for diagnosing and producing vaccines against bacterial infections such as otitis media and pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001000836	A1	20010104	(200112)*	EN	86

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000059778	A	20010131	(200124)		
EP 1196588	A1	20020417	(200233)	EN	

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001000836	A1	WO 2000-EP5851	20000623
AU 2000059778	A	AU 2000-59778	20000623
EP 1196588	A1	EP 2000-945811	20000623

WO 2000-EP5851 20000623

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000059778	A	Based on	WO 200100836
EP 1196588	A1	Based on	WO 200100836

PRIORITY APPLN. INFO: GB 1999-15044 19990625
AN 2001-112458 [12] WPIDS
AB WO 200100836 A UPAB: 20010302
NOVELTY - An isolated **polypeptide** (I) comprising an amino acid sequence which has 85% identity to the Moraxella catarrhalis BASB113 **polypeptide** sequence of 224 (S2) or 224 (S4) amino acids respectively as given in the specification, or has a sequence of (S2) or (S4), is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment (II) of (I) which has the same immunogenic activity as (I);

(2) an isolated polynucleotide (III), or its complementary nucleotide sequence comprising a nucleotide sequence:

(i) encoding a **polypeptide** that has 85% identity over the entire length of (S2) or (S4);

(ii) that has 85% identity over the entire length of the nucleotide sequence encoding region which encodes (S2) or (S4);

(iii) which has 85% identity over the entire length of a fully defined nucleotide sequence of 675 (S1) or 672 (S3) base pairs as given in the specification; and

(iv) comprising a nucleotide sequencing encoding (I) obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe with the sequence of (S1) or (S3);

(3) an expression vector (IV), or a recombinant live microorganism comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of the host cell expressing (I);

(5) production of (I) comprising culturing (V) and recovering the produced **polypeptide**;

(6) expressing (III) involves transforming (V) with (IV) which contains any one of the polynucleotides given above and culturing (V) under suitable conditions to express the polynucleotides;

(7) a vaccine composition which comprises (I) or (II);

(8) a vaccine composition which comprises (III);

(9) an antibody (Ab) immunospecific for (I) or (II); and

(10) therapeutic compositions comprising an antibody directed against (I) useful in treating humans with Moraxella catarrhalis.

ACTIVITY - Anti-inflammatory; auditory; antibacterial.

MECHANISM OF ACTION - Gene therapy; vaccine. Details of test are given but no results are stated.

USE - (I), (II) and (III) are useful for preparing a medicament useful for generating an immune response in an animal. (I) is also useful as diagnostic reagent for Moraxella catarrhalis which involves identifying (I) or an antibody against (I) present within the biological sample from an animal suspected of having such an infection (claimed). The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB113 and to isolate

cDNA and genomic clones of other genes that have high sequence identity to BASB113 gene. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (S1) or (S3) is used as PCR (polymerase chain reaction) primers. The polynucleotide sequences can be used in the discovery and development of antibacterial compounds. The encoded **protein** can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Dalgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to mammalian, host thus preventing the sequelae of infection. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with Moraxella catarrhalis to identify **protein** groups able to provoke a prophylactic or therapeutic immune response. The vaccine comprising (I), (II) or (III) is useful for treating Moraxella catarrhalis infections such as sinusitis, nosocomial infections, otitis media and pneumonia. (II) is also used for therapeutic or prophylactic purposes especially genetic immunization.
Dwg.0/3

L18 ANSWER 16 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-112457 [12] WPIDS
DOC. NO. NON-CPI: N2001-082525
DOC. NO. CPI: C2001-033486
TITLE: Novel BASB112 **polypeptides** of Moraxella catarrhalis, useful as a vaccine for treating Moraxella catarrhalis infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 95
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2001000835	A1	20010104	(200112)*	EN	81
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW					
AU 2000061519	A	20010131	(200124)		
EP 1196591	A1	20020417	(200233)	EN	
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2001000835	A1	WO 2000-EP5849	20000623
AU 2000061519	A	AU 2000-61519	20000623
EP 1196591	A1	EP 2000-947873	20000623
		WO 2000-EP5849	20000623

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 2000061519	A	Based on	WO 200100835
EP 1196591	A1	Based on	WO 200100835

PRIORITY APPLN. INFO: GB 1999-14870 19990625

AN 2001-112457 [12] WPIDS

AB WO 200100835 A UPAB: 20010302

NOVELTY - Isolated BASB112 **polypeptides** (I) of Moraxella catarrhalis, are new. The BASB112 **polypeptide** has the 122 (P1) or another 122 (P2) amino acid sequence defined in the specification.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (Ia) comprising an amino acid sequence which is at least 85%, preferably 95%, most preferably 100%, identical to the sequence, over its entire length, of P1 or P2;

(2) an immunogenic fragment (Ib) of (I) or (Ia), where the activity of the fragment is substantially the same as P1 or P2;

(3) an isolated polynucleotide (II) encoding (I), (Ia) or (Ib);

(4) an isolated polynucleotide (IIa) comprising a sequence encoding (Ia) or its complementary sequence

(5) an isolated polynucleotide (IIb) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identity to a sequence encoding P1 or P2 over the entire coding region, or a nucleotide sequence complementary to the isolated polynucleotide;

(6) an isolated polynucleotide (IIc) comprising a sequence having at least 85%, preferably 95%, most preferably 100% identical to the 369 (N1) or 366 (N2) nucleotides fully defined in the specification, or its complement;

(7) an isolated polynucleotide (IId) comprising a sequence encoding P1 or P2, obtainable by screening an appropriate library under stringent hybridization conditions with labeled probe having the sequence of N1 or N2;

(8) an expression vector (III) of a recombinant live microorganism, comprising (II), (IIa), (IIb), (IIc) or (IId);

(9) a host cell (IV) comprising (III), or a subcellular fraction or membrane of (IV) expressing (Ia);

(10) a process for producing (I), (Ia) or (Ib) comprising culturing (IV)

(11) a process for expressing (II), (IIa), (IIb), (IIc) or (IId), comprising transforming (IV) with (III) and culturing transformed (IV) under conditions sufficient for its expression;

(12) a vaccine composition (V) comprising (I), (Ia) or (Ib), or (II), (IIa), (IIb), (IIc) or (IId);

(13) an antibody (Ab1) immunospecific for (I), (Ia) or (Ib); and

(14) a method for diagnosing Moraxella catarrhalis infection,

by identifying (I)-(Ib) or Ab1 present within a biological sample from an animal suspected of having such an infection.

ACTIVITY - Antibacterial.

MECHANISM OF ACTION - Vaccine.

Groups of mice are immunized with BASB112 vaccine. After the booster, the mice were challenged by instillation of bacterial suspension into the nostril under anaesthesia. Mice were killed between 30 minutes and 24 hours after challenge and the lungs were removed aseptically and homogenized individually. The log 10 weighted mean number of colony forming units (CFU)/lung was determined by counting the colonies grown on agar plates after plating of dilutions of the homogenate. The arithmetic mean of the log 10 weighted mean number of CFU/lung and the standard deviations were calculated for each group. Results were not given in the specification.

USE - The vaccine is useful for preparing a medicament for use in generating immune response in an animal (claimed). Ab1 is useful for treating humans suffering from Moraxella catarrhalis disease (claimed).

Polynucleotides encoding the BASB112 **polypeptides** have utility in diagnosis of the stage and type of infection, and also for therapeutic or prophylactic purposes, in particular genetic immunization.

Dwg.0/3

L18 ANSWER 17 OF 20 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 2

ACCESSION NUMBER: 2000:133833 HCAPLUS
DOCUMENT NUMBER: 132:176650
TITLE: Cloning of BASB023 antigen from Moraxella catarrhalis
INVENTOR(S): **Thonnard, Joelle**
PATENT ASSIGNEE(S): Smithkline Beecham Biologicals S.A., Belg.
SOURCE: PCT Int. Appl., 99 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000009694	A1	20000224	WO 1999-EP5828	19990811
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
CA 2340392	AA	20000224	CA 1999-2340392	19990811
AU 9954227	A1	20000306	AU 1999-54227	19990811
EP 1105492	A1	20010613	EP 1999-940192	19990811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: GB 1998-17824 A 19980814
WO 1999-EP5828 W 19990811

AB The invention provides BASB023 **polypeptides** and polynucleotides encoding BASB023 **polypeptides** from Moraxella catarrhalis (also named Branhamella catarrhalis) and methods for producing such **polypeptides** by recombinant techniques. BASB023 antigen is related by amino acid sequence homol. to Legionella adelaidensis macrophage infectivity potentiator **polypeptide**. Since Moraxella catarrhalis is responsible for several pathologies, the main ones being otitis media in infants and children and pneumonia in elderlies, the invention provides diagnostic, prophylactic and therapeutic uses for Moraxella infection.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 18 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2001-025166 [03] WPIDS
DOC. NO. NON-CPI: N2001-019583
DOC. NO. CPI: C2001-007779
TITLE: New BASB103-108 **polypeptides** isolated from Moraxella catarrhalis bacterium, useful for diagnosing and producing vaccines against bacterial infections such as otitis media and pneumonia.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 2000071724	A2	20001130	(200103)*	EN	79

RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

AU 2000045673	A	20001212	(200115)	
EP 1185658	A2	20020313	(200225)	EN

R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 2000071724	A2	WO 2000-EP4618	20000518
AU 2000045673	A	AU 2000-45673	20000518
EP 1185658	A2	EP 2000-927226	20000518
		WO 2000-EP4618	20000518

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 2000045673	A Based on	WO 200071724

EP 1185658 A2 Based on WO 200071724

PRIORITY APPLN. INFO: GB 1999-13354 19990608; GB 1999-12038 19990524; GB 1999-12040 19990524; GB 1999-12674 19990601; GB 1999-12705 19990601; GB 1999-12838 19990602

AN 2001-025166 [03] WPIDS

AB WO 200071724 A UPAB: 20010116

NOVELTY - An isolated **polypeptide** (I) comprising an amino acid sequence which is at least 85% identical to the Moraxella catarrhalis BASB103-BASB108 **polypeptides** fully defined sequence of 252 (S2), 650 (S4), 405 (S6), 410 (S8), 818 (S10) or 913 (S12) amino acids as given in the specification, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an immunogenic fragment (II) of (I) which has the same immunogenic activity as (I);

(2) an isolated polynucleotide (III), or its complementary nucleotide sequence comprising a nucleotide sequence:

(a) encoding (I);

(b) that is 85% identical over the entire sequence which encodes (S2), (S4), (S6), (S8), (S10) or (S12);

(c) that is 85% identical to a fully defined nucleotide sequence of 759 (S1), 1953 (S3), 1218 (S5), 1233 (S7), 2457 (S9) or 2742 (S11) base pairs as given in the specification; and

(d) comprising a nucleotide sequencing encoding (I) obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (S1), (S3), (S5), (S7), (S9) or (S11);

(3) an expression vector (IV) or a recombinant live microorganism comprising (III);

(4) a host cell (V) comprising (IV), or a subcellular fraction or membrane of the host cell expressing (I);

(5) preparation of (I);

(6) expressing (III) involves transforming (V) with (IV) and culturing (V) under suitable conditions to express the polynucleotides;

(7) a vaccine composition which comprises (I), (II) or (III);

(8) an antibody (Ab) immunospecific for (I) or (II); and

(9) therapeutic compositions comprising an Ab directed against (I).

ACTIVITY - Anti-inflammatory; auditory. No supporting data given.

MECHANISM OF ACTION - Gene therapy; vaccine.

USE - The therapeutic composition comprising (I), an immunogenic fragment (II) of (I) or a polynucleotide (III) encoding (I) is useful for the preparation of a medicament for generating an immune response in an animal. (I) is also useful as a diagnostic reagent for Moraxella catarrhalis which involves identifying (I) or an antibody against (I) present within the biological sample from an animal suspected of having such an infection (claimed). The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB103-108 and to isolate cDNA and genomic clones of other genes that have high sequence identity to BASB103-108 gene. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from

(S1), (S3), (S5), (S7), (S9) or (S11) are used as polymerase chain reaction (PCR) primers. The polynucleotide sequences can be used in the discovery and development of antibacterial compounds. The encoded **protein** can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Dalgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to mammalian host thus preventing the sequelae of infection. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with M.catarrhalis to identify **protein** groups able to provoke a prophylactic or therapeutic immune response. The vaccine comprising (I), (II) or (III) is useful for treating Moraxella catarrhalis infections such as sinusitis, nosocomial infections, otitis media and pneumonia. (II) is also used for therapeutic or prophylactic purposes especially genetic immunization.
Dwg.0/0

L18 ANSWER 19 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-062301 [05] WPIDS
DOC. NO. NON-CPI: N2000-048799
DOC. NO. CPI: C2000-017245
TITLE: Novel **peptides** useful as vaccines for Moraxella infections such as otitis media, pneumonia, sinusitis etc.,.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): THOHNARD, J; **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9958684	A2	19991118	(200005)*	EN	113
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9941421	A	19991129	(200018)		
EP 1078064	A2	20010228	(200113)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE SI					
NO 2000005697	A	20010110	(200115)		
CZ 2000004203	A3	20010516	(200132)		
AU 737196	B	20010809	(200152)		
KR 2001043573	A	20010525	(200168)		
CN 1309706	A	20010822	(200175)		
HU 2001002853	A2	20011128	(200209)		
ZA 2000006522	A	20020130	(200217)		131
BR 9911773	A	20020305	(200225)		
MX 2000011140	A1	20010501	(200227)		

JP 2002514425 W 20020521 (200236) 114
NZ 508322 A 20021220 (200309)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9958684	A2	WO 1999-EP3257	19990507
AU 9941421	A	AU 1999-41421	19990507
EP 1078064	A2	EP 1999-924948	19990507
		WO 1999-EP3257	19990507
NO 2000005697	A	WO 1999-EP3257	19990507
		NO 2000-5697	20001110
CZ 2000004203	A3	WO 1999-EP3257	19990507
		CZ 2000-4203	19990507
AU 737196	B	AU 1999-41421	19990507
KR 2001043573	A	KR 2000-712705	20001113
CN 1309706	A	CN 1999-808554	19990507
HU 2001002853	A2	WO 1999-EP3257	19990507
		HU 2001-2853	19990507
ZA 2000006522	A	ZA 2000-6522	20001110
BR 9911773	A	BR 1999-11773	19990507
		WO 1999-EP3257	19990507
MX 2000011140	A1	MX 2000-11140	20001113
JP 2002514425	W	WO 1999-EP3257	19990507
		JP 2000-548475	19990507
NZ 508322	A	NZ 1999-508322	19990507
		WO 1999-EP3257	19990507

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9941421	A	Based on	WO 9958684
EP 1078064	A2	Based on	WO 9958684
CZ 2000004203	A3	Based on	WO 9958684
AU 737196	B	Previous Publ.	AU 9941421
		Based on	WO 9958684
HU 2001002853	A2	Based on	WO 9958684
BR 9911773	A	Based on	WO 9958684
JP 2002514425	W	Based on	WO 9958684
NZ 508322	A	Based on	WO 9958684

PRIORITY APPLN. INFO: GB 1998-10285 19980513
AN 2000-062301 [05] WPIDS
AB WO 9958684 A UPAB: 20000128
NOVELTY - An isolated **polypeptide** with Moraxella catarrhalis BASB020 **polypeptide** (I),(II),(III),(IV) sequence of 280 amino acids (aa) as given in the specification, from M.catarrhalis strains MC2931, MC2912, MC2913 and MC2969, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) an isolated **polypeptide** (V), comprising an aa sequence which has 85% identity to the aa sequence of (I),(II),(III) or (IV);

(2) an immunogenic fragment (VI), of (I),(II),(III),(IV) or (V) which has the same immunogenic activity as (I),(II),(III) or (IV);

(3) an isolated polynucleotide (VII), comprising a nucleotide sequence encoding (I),(II),(III) or (IV);

(4) an isolated polynucleotide (VII), or its complementary nucleotide sequence comprising a nucleotide sequence:

(a) encoding a **polypeptide** that has 85% identity over the entire length of (I),(II),(III) or (IV);

(b) that has 85% identity over the entire length of the nucleotide sequence coding region which encodes (I),(II),(III) or (IV); and

(c) which has 85% identity over the entire length of a fully defined nucleotide sequence of 843 base pairs (1,2,3,4) as given in the specification;

(5) an expression vector (IX), or a recombinant live microorganism comprising (VII) or (VIII);

(6) a host cell (X), or a membrane comprising (IX) which expresses (V);

(7) preparation of (I),(II),(III) or (IV);

(8) expression of (VII) or (VIII) which comprises transforming (X) with (IX) which contains any one of the polynucleotides given above and culturing (X) under suitable conditions to express the polynucleotides;

(9) a vaccine composition which comprises (I),(II),(III) or (IV) or (V);

(10) a vaccine composition which comprises (VII) or (VIII);

(11) an antibody (Ab) immunospecific for (I),(II),(III), (IV), (V) or (VI); and

(12) diagnosing a Moraxella infection by identifying (I),(II),(III), (IV),(V) or (VI) or an Ab produced against them, present in a biological sample obtained from an animal suspected of having such infection.

ACTIVITY - Anti-inflammatory; auditory.

MECHANISM OF ACTION - Vaccine. The efficacy of BASB020 vaccine was analyzed by enhancement of lung clearance of M.catarrhalis in mice. Groups of 6 BALB/c mice were immunized subcutaneously with 100 mu l of vaccine corresponding to a 10 mu l dose and were boosted 2 weeks later. One week after the booster, the mice were challenged by instillation of 50 mu l of bacterial suspension into the left nostril under anesthesia and 0.8 mg ketamine. Mice were killed 4 hours after challenge and the lungs are removed aseptically a homogenized individually. The log 10 weighted mean number of CFU/lung is determined by counting the colonies grown on Mueller-Hinton agar plates after plating of 20 mu l of 5 serial dilutions of the homogenate. BASB020 vaccine induced significant lung clearance as compared to the control (0.62 log difference).

USE - The polynucleotides may be used as hybridization probes for RNA, cDNA and genomic DNA to isolate full-length cDNAs and genomic clones encoding BASB020 and to isolate cDNA and genomic clones of other genes that have high sequence identity to BASB020 gene. The polynucleotides and **polypeptides** are used as research reagents and materials for discovery of treatments of and diagnostics for human diseases. The polynucleotides derived from (1,2,3,4) are used for PCR to determine whether or not the identified polynucleotides are transcribed in bacteria in infective tissue and so are helpful in the diagnosis of the stage and type of infection, the pathogen has attained. Probes comprising BASB020 nucleotide sequence can be constructed to conduct efficient screening of genetic mutations, serotype, taxonomic classification or identification. Primers with 1-4 nucleotides removed from the 5'

and/or 3' end are used for amplifying BASB020 DNA and/or RNA isolated from a sample derived from an individual. The polynucleotides are used as components of high density polynucleotide arrays or grids which are useful for diagnostic and prognostic purposes. The antibodies directed against (I),(II),(III),(IV) or (VII) are employed to isolate or to identify clones expressing (I),(II),(III),(IV) or (VII) or to purify them. The polynucleotide sequences can be used in the discovery and development of antibacterial compounds. The encoded **protein** , for expression can be used as target for the screening of antibacterial drugs. Additionally, the polynucleotide sequences encoding the amino terminal regions of the encoded **protein** or Shine-Delgarno or other translation facilitating sequences of the respective mRNA can be used to construct antisense sequences to control the expression of the coding sequence of interest. The **polypeptides** and polynucleotides are used to block the initial physical interaction between a gram negative and/or gram positive bacteria to the mammalian host. The polynucleotides encoding certain non-variable regions of bacterial cell surface **protein** are used in polynucleotide constructs which are useful for genetic immunization experiments in animal models of infection with M.catarrhalis to identify **protein** epitopes able to provoke a prophylactic or therapeutic immune response. The therapeutic composition comprising an immunologically effective amounts of a **polypeptide**, (I),(II),(III),(IV) or (V); or a polynucleotide, (VII) or (VIII) is useful in the preparation of a medicament for generating an immune response in an animal. A therapeutic composition comprising an Ab directed against one or two useful for treating humans with M.catarrhalis diseases (claimed) such as sinusitis, otitis media and nosocomial infections. Dwg.0/8

L18 ANSWER 20 OF 20 WPIDS (C) 2003 THOMSON DERWENT
ACCESSION NUMBER: 2000-039107 [03] WPIDS
DOC. NO. NON-CPI: N2000-029453
DOC. NO. CPI: C2000-010168
TITLE: Novel BASB010 polynucleotides and **polypeptides** from Moraxella catarrhalis used to prepare vaccines against bacterial infections.
DERWENT CLASS: B04 D16 S03
INVENTOR(S): **THONNARD, J**
PATENT ASSIGNEE(S): (SMIK) SMITHKLINE BEECHAM BIOLOGICALS
COUNTRY COUNT: 87
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
WO 9958682	A2	19991118	(200003)*	EN	100
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW					
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW					
AU 9942600	A	19991129	(200018)		
EP 1078065	A2	20010228	(200113)	EN	
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
WO 9958682	A2	WO 1999-EP3254	19990507
AU 9942600	A	AU 1999-42600	19990507
EP 1078065	A2	EP 1999-950353	19990507
		WO 1999-EP3254	19990507

FILING DETAILS:

PATENT NO	KIND		PATENT NO
AU 9942600	A	Based on	WO 9958682
EP 1078065	A2	Based on	WO 9958682

PRIORITY APPLN. INFO: GB 1999-5308 19990308; GB 1998-10195 19980512

AN 2000-039107 [03] WPIDS

AB WO 9958682 A UPAB: 20000118

NOVELTY - Novel BASB010 polynucleotides and **polypeptides** from Moraxella catarrhalis are disclosed.

DETAILED DESCRIPTION - An isolated BASB010 **polypeptide** (I) is new, and comprises an amino acid sequence which has at least 85% or 95% identity to, or is, the 391 (Ia), 391 (Ib) or 391 (Ic) amino acid sequences given in the specification.

INDEPENDENT CLAIMS are also included for the following:

(1) An immunogenic fragment of (I) in which the immunogenic activity is substantially the same as (Ia), (Ib) or (Ic);

(2) An isolated polynucleotide encoding (I), or a complementary nucleotide;

(3) An isolated polynucleotide (II) which comprises a sequence which has at least 85% or 95% identity to over the entire length, or is, the 1176 bp (IIa), 1176 bp (IIb) or 1176 bp (IIc) sequence given in the specification, or its complement;

(4) An isolated polynucleotide encoding (Ia)-(Ic), obtainable by screening an appropriate library under stringent hybridization conditions with a labeled probe having the sequence of (IIa), (IIb), (IIc) or a fragment thereof;

(5) An expression vector or recombinant live microorganism comprising (II), or the polynucleotides of (2) or (4);

(6) A host cell comprising the expression vector of (5), or a subcellular fraction of that cell expressing (I);

(7) A process for producing (I), comprising culturing a host cell under conditions sufficient for the production of the **polypeptide**, and recovering the **polypeptide** from the culture medium;

(8) A process for expressing (II) or the polynucleotides of (2) or (4), comprising transforming a host cell with a vector comprising at least one of these polynucleotides, and culturing the cell under conditions sufficient for expression of the polynucleotide;

(9) A vaccine composition comprising an effective amount of (I) and a pharmaceutically acceptable carrier;

(10) A vaccine composition comprising an effective amount of (II) or the polynucleotides of (2) or (4), and a pharmaceutically acceptable carrier;

(11) An antibody immunospecific for (I), or the fragment of

(1);

(12) A method for diagnosing a M. catarrhalis infection, comprising identifying (I), or an antibody that is immunospecific for (I), present within a biological sample from an animal suspected of having such an infection;

(13) Use of a composition comprising an immunologically effective amount of (I) or (II) or the polynucleotides of (2) or (4) in the preparation of a medicament for use in generating an immune response in an animal; and

(14) A therapeutic composition useful in treating humans with M. catarrhalis, comprising at least one antibody directed against (I) and a pharmaceutically acceptable carrier.

ACTIVITY - Anti-bacterial, immunostimulant.

MECHANISM OF ACTION - Vaccine.

USE - The polynucleotides and **polypeptides** may be employed as research reagents and material for the discovery of treatments and diagnostics for diseases, particularly human diseases. They can be used for diagnosis of disease, staging of disease, or determining response of an infectious organism to drugs. The polynucleotides may be used as a source for hybridization probes, and for screening of genetic mutations, serotype, organism or strain identification, identification of mutations in BASB013 sequences, and as components of arrays which are useful for diagnostic and prognostic purposes. The **polypeptides** can be used to produce antibodies. The **polypeptides** can also be used in vaccine formulations, and to identify agonists and antagonists. The **polypeptides**, antibodies, agonists and antagonists (which are bacteristatic) are used for the treatment and prevention of diseases such as otitis media in infants and children, pneumonia in the elderly, sinusitis, nosocomial infections and invasive diseases, chronic otitis media with hearing loss, fluid accumulation in middle ear, auditive nerve damage, delayed speech learning, infection of the upper respiratory tract and inflammation of the middle ear. They are particularly used to diagnose and treat M. catarrhalis infections. The **polypeptides**, agonists and antagonists are also used for screening of antibacterial drugs.

ADVANTAGE - The frequency of Moraxella catarrhalis infections has risen dramatically, and it is no longer common to isolate M. catarrhalis strains that are resistant to standard antibiotics. The BASB010 products of the invention can be used screen for new antibacterial compounds that may target these resistant bacteria.

Dwg.0/4

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